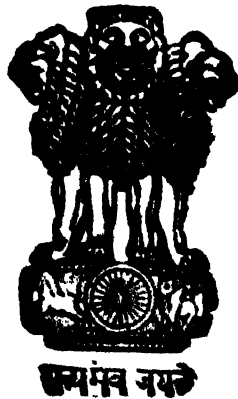


ESTIMATES COMMITTEE

FORTY-NINTH REPORT

1956-57

ACTION TAKEN BY GOVERNMENT ON THE
RECOMMENDATIONS CONTAINED IN
THE FIFTH REPORT OF THE
ESTIMATES COMMITTEE



LOK SABHA SECRETARIAT

NEW DELHI

March, 1957

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MEMBERS OF THE ESTIMATES COMMITTEE, 1956-57

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*Resigned on 20th November, 1956.

**Died on 6th October, 1956.

†Ceased to be a Member upon his election to Rajya Sabha on the 13th December, 1956.

INTRODUCTION

1, the Chairman of the Estimates Committee, having been authorised by the Committee present this Forty-ninth Report on the action taken by the Government on the recommendations contained in the Committee's Fifth Report on the Central Water and Power Commission and Multi-purpose River Valley Schemes.

2. The Fifth Report of the Estimates Committee was presented to the House on the 5th March, 1952. The Government laid a statement on the Table of the House showing progress made in regard to the recommendations contained in that Report on the 19th December, 1952. They laid a second statement on the Table showing further progress of action taken on that Report on 25th September, 1954. These statements were considered by the Sub-Committee of the Estimates Committee, 1955-56 during their sitting on the 16th October, 1955. The main Committee considered the views of the Sub-Committee on the replies by the Government on the 28th November, 1955 and 8th December, 1955. Further comments of the Committee have been communicated to Government.*

3. The Report has been divided into four Chapters :

- I. Report.
- II. Recommendations that have been accepted by the Government.
- III. Replies of the Government that have been accepted by the Committee.
- IV. Replies of the Government that have not been finally accepted by the Committee and are being pursued.

BALVANTRAY G. MEHTA,

NEW DELHI;

The 2nd March, 1957.

Chairman,

Estimates Committee.

*A statement showing replies of the Government in respect of the comments of the Committee is reproduced at Appendix IV.

CHAPTER I

REPORT

In paras 108 and 109 of the Fifth Report, the Estimates Committee recommended that the Board of the River Valley Projects should submit to Government complete quarterly progress reports and statements of expenditure against sanctioned allotments giving explanations for variations, if any, which should be laid before Parliament. The Government accepted this recommendation but stated that it was not necessary to lay the reports before Parliament. They also stated that quarterly progress reports were being received by the Ministry from the Boards. The Committee consider that at least the annual progress reports of the Boards should be laid on the Table of the House and copies circulated to Members of Parliament.

2. In para 118 of the Report, the Committee had recommended that a cost accounting organisation for each project should be set up as soon as the scheme was sanctioned and that it should focus attention where waste was likely and suggest improvements where needed. The Government stated in reply that the working of the cost accounting cell which had been constituted for the Bhakra Nangal Project was being watched and if the results of the Bhakra cell were successful they would extend it to other projects. The Committee regret to observe that the importance of the recommendation has not been adequately appreciated. They feel that more cost consciousness and emphasis on cost control than that existing at present is necessary in every Government Project or undertaking and that it is not necessary to think in terms of watching the results of experiments in this matter. They consider that it should be possible for the experts to devise a system which would meet the needs of each project and undertaking and hope that early and effective action would be taken in the matter. In this connection they would also invite reference to their recommendation in para 121 of their Thirty-ninth Report.*

3. In para 126 of the Report the Committee recommended that there should be specific machinery for ensuring full control by Parliament over various schemes. It was also recommended that all plans, estimates etc., relating to schemes should be laid before Parliament with a positive motion seeking its approval thereto. Similarly, whenever changes in the plans or estimates were required to be made specific approval of Parliament ought to be obtained. The Government stated in their reply that the normal procedure for securing the approval of Parliament for expenditure proposals would continue to be followed which meant that the Government were not prepared to lay before Parliament all plans, estimates etc., as recommended by the Committee. The Committee do not propose to pursue the matter further at this stage as the Speaker has already decided that in future a Sub-Committee of the Estimates Committee should conduct a detailed examination of the various national undertakings. The above points would fall within the scope of the examination by the Sub-Committee of the Estimates Committee.

*Further reply received from the Ministry of Irrigation and Power has been reproduced at Appendices III and IV.

4. The Committee recommended in para 136 of the report that there should be strict orders against the misuse of all vehicles, motor cars etc. maintained by the project organisations and the expenditure thereon should be controlled and also that no car or vehicle should be used except for official purposes. Government stated in their reply that it was not desirable to prohibit entirely the use of Government vehicles for private purpose in out of the way places where projects were generally located but agreed that such use however should be properly regulated and payment at stipulated rates should be enforced. The Committee are satisfied with the Government's reply and hope that the rules would be properly enforced. But they would recommend that the use of luxury cars as staff cars should be avoided, and that staff cars should in all cases be utility cars.

5. The Committee would also observe that in respect of a number of points, further information was requested from the Ministry. The Ministry was addressed about these in December, 1955 and February, 1956. The Committee regret to mention that the required information has not been furnished so far.

NOTE:—Since the finalization of this report, reasons have been given for the delay referred to above (*vide* Appendix III).

CHAPTER II

RECOMMENDATIONS THAT HAVE BEEN ACCEPTED BY THE GOVERNMENT

Serial No.*	Reference to para. No. of the Report	Summary of Recommendations†	Reply of the Government
1	2	3	4
1	13	<p>The Chairman of the Commission should not have any <i>ex-officio</i> status in the Ministry nor should he be responsible for any administrative decisions on behalf of the Ministry. The duties of the Commission should be limited to initiating of co-ordination and furthering schemes for the conservation and utilisation of water resources throughout the country. The functions relating to the construction of projects should be taken away from the Commission and entrusted to separate <i>ad hoc</i> bodies.</p>	<p>THE CENTRAL WATER AND POWER COMMISSION The first part of the recommendations is accepted. Steps will be taken shortly to appoint a Chairman who will have no <i>ex-officio</i> Secretariat status.</p> <p>The Government attach considerable importance to the experience gained by officers and staff in the field to be made available to the Central Organisation at headquarters and <i>vice versa</i>. To this end it is necessary that the staff in headquarters and in the field should be interchangeable.</p>
			<p>As regards the construction of projects the arrangements which Government normally propose to adopt is to appoint a Chief Engineer to be in charge of the project subject to the over-all control of a Board constituted on the lines of the Bhakra Control Board and the Hirakud Control Board.</p>

* Note : Sl. No. indicates the S. No. of the recommendation as given in the Appendix to the Fifth Report.

(Statements laid on the Table on the 19th December, 1952)

The first part of the recommendation has been implemented. While it is agreed that the C. W. P. C. should not directly take part in the execution of a project, it is desirable that where assistance in the form of a large loan is granted to a State for the construction of a project the Centre should not divest itself of responsibility for the proper expenditure of funds. There may be States who, owing to inexperience or for other reasons, may elect to hand over construction to the Centre. In such cases, it may be necessary for the Centre to set up a special organisation on the lines of Hirakud or Bhakra Control Board to supervise the execution of the Project. The fact that the C. W. P. C. will be divested of its responsibility for construction does not mean that it should be precluded from lending experienced staff for work on projects undertaken in the States. There should be a nucleus of experienced technical personnel in the C. W. P. C. who could be lent to projects undertaken by States who do not have a strong engineering cadre. Interchangeability of staff between the Project and the Commission is a desideratum.

(Statements laid on the Table on the 25th September, 1954).

The Commission should make plans and designs, draw up accurately the estimates, indicate priorities in respect of schemes and the target dates within which different stages of schemes should be completed. In short, the Commission must prepare a complete blue-print for a particular scheme in order to enable the Government to come to conclusions as to the necessity and advisability of undertaking a particular scheme at a particular time. In case the scheme is finally undertaken it should also be the function of the Commission to indicate the man-power required and the machinery, plants and tools needed and how they can be procured. The activities of the Commission in regard to the development of River Valley Schemes should be confined to irrigation, navigation, flood control, water logging and hydro-electric power generation.

The Commission are even now expected to perform the functions proposed to be assigned to them.

(Statement laid on the Table on the 19th December, 1952).

No action is called for.

(Statement laid on the Table on the 25th September, 1954).

DAMODAR VALLEY PROJECT

15 50 The method for tapping available technical man-power in India should be improved and clearly laid down.

Please see Serial No. 9 (Chapter III).
(Statement laid on the Table on the 19th December, 1952).

The assessment of technical man-power on all India basis has been taken up and a *proforma* has been sent out to State Governments for supply of information. Action is being pursued on the constitution of All India Service of I. & P. Engineers as also the formation of a central pool of such officers.

(Statement laid on the Table on the 25th September, 1954).

16 51 A suitable Indian Engineer should be placed as an under study to the present American Chief Engineer, so that he is fully equipped with all the technical and administrative experience by the time he is called upon to take over the charge of Chief Engineer of the Project when the present Chief Engineer

Please see Serial No. 9 (Chapter III).

(Statement laid on the Table on the 19th December, 1952).

The D. V. C. have appointed one of their own Engineers as Deputy Chief Engineer to act as under study to the present Chief Engineer.
(Statement laid on the Table on the 25th September, 1954).

retires on the conclusion of his term of appointment. The selection of such a person should be entrusted to a Committee of Experts of which the present Chief Engineer should be the Chairman.

18 57

The Corporation should have given higher priority to flood control and irrigation instead of the construction of a Thermal Station, as the scheme was originally conceived as a flood control measure. The work of flood control and irrigation could have been completed at a far less cost than that incurred on the Thermal Station and the results would have been more useful for the country's benefit.

Please see Serial No. 9. (Chapter III).

(Statement laid on the Table on the 19th December, 1952).

Construction of Bokaro Power House had been decided upon before the D. V. C. was set up. It was largely financed by World Bank Loan. Maithon Dam, Panchet Hill Dam and Durgapur Barrage canals are now actively being pushed on. The Committee's observations have been noted for future projects.

(Statement laid on the Table on the 25th September, 1954).

HIRAKUD DAM PROJECT

19 (70-71)

(i) The administrative set up of the project should be remodelled.

(Statement laid on the Table on the 19th December, 1952).

In view of the position explained in Government's decision, no further action is called for.

(Statement laid on the Table on the 25th September, 1954).

19 (70-71) (ii) An officer of sufficient seniority and with sufficient authority should be appointed as Financial Adviser so that he may be able to take independent decisions on the spot. The position of the Financial Adviser should be defined in the manner recommended by the Committee.

(ii) A Joint Secretary of the Finance Ministry of the Government of India and the Finance Secretary, Orissa, are both members of the Hirakud Control Board which now meets frequently at Hirakud to take on-the-spot decisions, thus minimising the necessity of the Financial Adviser having to make references to New Delhi.

(Statement laid on the Table on the 19th December, 1952).

21 74 There should be a proper system for the preparation and submission to the controlling authority of monthly progress reports on the project. The controlling authority should ensure that the progress shown in these reports is keeping in line with the plans, the schedule of dates and estimates of costs.

The form of report prescribed for the Bhakra Control Board is comprehensive and the same form will be made applicable to other projects also. It is proposed to discuss these reports with the Chief Engineers in charge of the projects every quarter.

(Statement laid on the Table on the 19th December, 1952).

The *proforma* in which the progress reports are being submitted have been suitably changed. The question of progress reports on all projects is also to be discussed in the Second Engineers' Seminar to be held in August, 1954.

(*Statement laid on the Table on the 25th September, 1954.*)

22 The revised estimates in respect of the project should be prepared in detail in the light of the current information and the programme of expenditure to be incurred each year should be recast so that there is even flow of funds and both the Central and the Orissa Governments are in the know of the current position.

75 Revised estimates have been prepared and budget provision has been made in consultation with Finance. The programme of expenditure to be incurred hereafter will be determined by the provision made in the Five Year Plan.

(*Statement laid on the Table on the 19th December, 1952.*)

In view of the position explained in Government's decision, no action is called for.

(*Statement laid on the Table on the 25th September, 1954.*)

BHAKRA NANGAL PROJECT

29 94 The estimates of the project prepared five or six years ago should be revised in accordance with the current market conditions in order to enable Government to assess the total expenditure required to finance the scheme.

The project estimate has been revised. The revised estimate is under the consideration of Government.

(*Statement laid on the Table on the 19th December, 1952.*)

The latest revised estimates for the Bhakra Nangal Project are under examination by the Bhakra Control Board in consultation with the Central Water and Power Commission.

(Statement laid on the Table on the 25th September, 1954).

30

95

Adequate amenities, such as proper accommodation in healthy surroundings, should be provided for the labourers engaged in the execution of the project.

Accepted.

(Statement laid on the Table on the 19th September, 1952).

These have been provided by the Project authorities.

(Statement laid on the Table on the 25th September, 1954).

33

102

Whenever a scheme is formulated, it is essential that all detailed aspects pertaining to

Accepted.

(Statement laid on the Table on the 19th December, 1952).

GENERAL

finance, technical side of the scheme, acquisition of land, training of man-power, procurement of stores, plants and machinery, prospects of development of industry, utilisation of water and power are properly conceived dovetailed and provided for at proper stages and in an integrated manner. There should be total planning in advance including the question of utilisation of benefits accruing from a completed scheme, so that everything proceeds on a planned and ordered basis and each one in the chain knows precisely what he has to do and wherein he comes into the picture. An integrated scheme will also enable the top authority to watch the progress in all directions.

There should be one controlling authority for the overall control and for watching the progress of all the schemes at the same time as well as individual schemes. Such an

The recommendation has been accepted and the points mentioned by the Estimates Committee will be borne in mind while formulating Schemes.

(Statement laid on the Table on the 25th September, 1954).

It is agreed that the C. W. P. C. should be the controlling authority for watching the progress of all the schemes.

(Statement laid on the Table on the 19th December, 1952).

The C. W. P. C. have been entrusted with this work. A Directorate has been opened in the Commission for watching the progress of works and expenditure on projects under execution for carrying

authority must be kept posted with control charts, maps and progress reports from time to time, which should be maintained in a control room thus enabling the controlling authority to know the current position at a glance and utilise the resources to the maximum extent wherever they are needed. The Central Water and Power Commission should be entrusted with this work as they are in a better position to co-ordinate both technical and non-technical aspects of such schemes.

35 104 There should be a three-tier organisation for the planning, execution and completion of various Multi-purpose River Valley Schemes with clearly defined functions for each. The first-tier should

out technical examination of project estimates and for maintaining a control room.

(Statement laid on the Table on the 25th September, 1954).

It is agreed that the Cabinet should give policy decisions and that the C.W.P.C. should collect data, make plans and frame estimates. As regards the organisation responsible for construction, it may be either a semi-autonomous Control Board without statutory

consist of the Cabinet which on the advice of the Ministry of Natural Resources and Scientific Research, the Planning Commission and the Central Water and Power Commission will give policy decisions.

The functions of initiating and making plans should vest in the Central Water and Power Commission which would act as fact finding and initiating agency. They would collect data, make plans and frame estimates. It should be the responsibility of the Ministry of Natural Resources and Scientific Research and the Planning Commission in consultation with Central Water and Power Commission and the Ministry of Finance to give these plans and estimates the final shape. The third tier is the creation of semi-autonomous organisation (by statute of Parliament) with well defined functions and powers, which would be charged with the

powers, or where several States are involved, a Control Board or Corporation vested with statutory powers. A decision regarding the precise nature of the organisational set-up should be taken only after a full examination of the circumstances of each case.

(Statement laid on the Table on the 19th December, 1952.)

This recommendation has been accepted and action as indicated in Government decision is being taken wherever necessary.

(Statement laid on the Table on the 25th September, 1954.)

responsibility of constructing the project on the line of approved plans and within the estimates framed therefor.

36 Steps should be taken to set up on a uniform basis semi-autonomous boards for the execution of the River Valley Projects with clearly defined functions. For the efficient running of such organisations there should be a Board consisting of at least three persons, one of whom may be the Chairman, who should have wide administrative experience and preferably possessing knowledge of finance or engineering matters. Of the other two members, one should be an engineer with vast experience in construction of dams, barges and should have functional responsibility inasmuch as he will be the Chief Engineer of the project. The third member should be Fina-

2 For the volume and nature of the work now on hand the present practice of nominating part time members to serve on semi-autonomous control boards without statutory functions is adequate.

(Statement laid on the Table on the 19th December, 1952)

cial Adviser in charge of all financial matters of the organisations.

37 106 The Board should have complete powers to work within the frame work of the approved plans and estimates of cost and should strictly adhere to the priority indicated in the blue print of the scheme. If any modifications of the original plans and estimates are considered necessary they should be decided at a joint meeting of the Central Water and Power Commission and the Board and their decisions submitted to Government for approval.

38 107 The minutes of the meetings and decisions of the Board should be communicated to the Central Government who should consider and see that the work is proceeding according to the approved plans and estimates. Government should immediately draw the attention of the Board to matters which require reconsideration by the

Accepted in respect of projects in charge of Boards.

(Statement laid on the Table on the 19th December, 1952).

These recommendations are being followed in respect of projects for which Control Boards exist.

(Statement laid on the Table on the 25th September, 1954).

Board and arrive at agreed conclusions. In the event of a difference between the Government and the Board, it should be for the Government to give directions as they deem fit. The directions given by the Central Government should be issued formally and there should be no informal suggestions or references between the Government and the Board.

39 108-109 The Board should submit to Government complete quarterly progress reports and statements of expenditure against sanctioned allotments together with full explanations for variations, if any, which should be laid before Parliament.

40 110(i) All appointments above a certain monetary limit should be made by the Board as a

Accepted. It is not, however, necessary to lay these quarterly reports before Parliament.

(Statement laid on the Table on the 19th December, 1952).

Quarterly progress reports are received as indicated in Government's decision.

(Statement laid on the Table on the 25th September, 1954)

Appointments by the Central Government in connection with centrally administered projects will be made in accordance with the rules and Union Public Service Commission will be consulted

whole. The key appointments, specified by the Central Government, should be made after their approval. The U.P.S.C. should also be associated in making appointments wherever necessary. All appointments should be made in accordance with the rules and regulations framed by the Board in consultation with the Central Government.

41

111 The staff employed in the various projects should be given legitimate facilities and amenities in regard to accommodation, supply of electricity, water, etc. but a tendency of overdoing it should be curbed. There should either be a reasonable allowance or free service in kind but not both. The grant of Construction Allowance to the staff at Hirakud must be stopped.

42

112 All appointments should be as far as possible filled by Indians. Wherever non-Indians have to be appointed, the appointments must be made after full

wherever necessary. State Governments have their own rules of recruitment.

(Statement laid on the Table on the 19th December, 1952).

The position has already been explained in Government decision.

(Statement laid on the Table on the 25th September, 1954).

It is agreed that the staff employed in the various projects should be given reasonable facilities and amenities and that the tendency to be generous in the grant of such concessions should be curbed. The question of continuing the Construction Allowance is under the consideration of the Hirakud Control Board and the Government will be guided by their recommendation.

(Statement laid on the Table on the 19th December, 1952)

The Government's decision has been brought to the notice of the Project authorities and action taken by them. See also remarks against recommendation No. 23 (Chapter IV).

(Statement laid on the Table on the 25th September, 1954).

The recommendation is accepted. The Government of India will, as far as possible give effect to it in projects administered by them.

(Statement laid on the Table on the 19th December, 1952)

The recommendation has been brought to the notice of the project authorities for implementation.

facts justifying such appointments have been furnished to the Central Government and their approval obtained. In case of appointment of a non-Indian the appointment should be only for a minimum period and a competent Indian should invariably be put as an under-study to enable him to take over the duties in due course.

(Statement laid on the Table on 25th September, 1954).

43 113 The practice of appointing too many Consultants and Advisers to the Board should be avoided.

Accepted.

(Statement laid on the Table on the 19th December, 1952).

The recommendation has been brought to the notice of the project authorities for implementation.

(Statement laid on the Table on the 25th September, 1954).

45 115 All contracts between Rs. 50,000 and Rs. 2 lakhs should be sanctioned by the Board. Contracts between Rs. 50,000 and Rs. 2 lakhs should be given with the approval of the Chief Engineer and below Rs. 50,000

Projects even now maintain lists of contractors and schedule of rates (See also remarks against recommendation 24 (Chapter III).

(Statement laid on the Table on the 19th December 1952).

In view of the position explained in Government's decision no further action is necessary.

(Statement laid on the Table on the 25th September, 1954):

49 When any scheme is initiated by the Central Water and Power Commission, all aspects of the scheme, technical details and the major and minor details of plans should be carefully considered and proper estimates for every item of the scheme also prepared simultaneously.

It is not always practicable to have detailed estimates for every component work of a large project in the investigation stage. But no work should ordinarily be started without a detailed sanctioned estimate unless it is certified by competent authority to be of emergent nature.

(Statement laid on the Table on the 19th December, 1952).

Necessary instructions have been issued to the project authorities. (Statement laid on the Table on the 25th September, 1954).

53 Wasteful experiments should on no account be initiated in the midst of huge constructions and the conventional methods of proved efficacy should be strictly adhered to.

Government agree generally.

(Statement laid on the Table on the 19th December, 1952).

Necessary instructions have been issued to the Project authorities. (Statement laid on the Table on the 25th September, 1954).

54 There should be a provision in the statute itself for the audit of expenditure of the project.

It is agreed that provision of the kind proposed should be incorporated in the statute itself if a statute is enacted.

(Statement laid on the Table on the 19th December, 1952).

(i) Audit should be conducted by a representative of the Comptroller and Auditor-General or a Commercial Auditor appointed by him.

Action will be taken whenever necessary.

(Statement laid on the Table on the 25th September, 1954).

(ii) Audit staff should be located at the headquarters of the organisation to conduct concurrent audit.

(iii) The report of the auditors should be made to the Comptroller & Auditor-General who will cause it to be laid before Parliament.

(iv) The Comptroller and Auditor-General should arrange to submit to Parliament a report on any serious cases of irregularities, fraud, bad management, etc. which may come to his notice.

55 125 A register of expert engineers and other technical persons together with their respective qualifications, experience, etc. (who are likely to be useful for the work of the River Valley Projects) should be maintained by the Central Water and Power Commission. Appointments should invariably be made from this list.

A list of expert engineers is being compiled. But the recommendation does not go far enough. State Governments are being approached to provide for a deputation reserve to meet the requirements of the Centre. At present there is no guarantee that an Officer who is on the panel will be released by the State Government when he is wanted for service in the Centre.

(Statement laid on the Table on the 19th December, 1952).

For proper assessment of technical man power in the country information is being collected from all State Governments in a proforma prepared in consultation with the Planning Commission.

This subject will be discussed in detail in the second Engineers Seminar to be held in August, 1954.

(Statement laid on the Table on the 25th September, 1954).

57 127 The Board of Control should be a homogeneous one and there must be a single appointing authority for making key appointments to the Board. When a project is undertaken in conjunction with one or more State Governments, the Central Government should have final power of constituting the Board in consultation with the State Governments concerned, if necessary.

It is agreed that the appointing authority should be the Central Government. It is presumed that the Estimates Committee mean by a 'homogeneous Board' a Board which works as a team. The composition and pattern of the Board will be settled by the Central Government in consultation with the State Governments concerned.

(Statement laid on the Table on the 19th December, 1952).

Action as indicated in Government's decision will be taken where necessary.

(Statement laid on the Table on the 25th September, 1954).

23

61 131 It should be ensured that the bulk of the generation of power derived from the Multi purpose River valley projects would be advantageously utilised, as it is observed that considerable amount of expenditure is at present being incurred towards the generation of Power

Accepted. Hydro-electric installations proposed to be set up in the near future are on the conservative side considering the results of load surveys. Load surveys are being carried out to ensure utilisation of power but they should be done more extensively.

(Statement laid on the Table on the 19th December, 1952).

The position has been explained in Government's decision.

(Statement laid on the Table on the 25th September, 1954).

62 132 The construction of large scale Thermal Stations should not be undertaken under a River Valley Scheme unless the installation of hydro-electric power stations form a necessary part of the Project.

Before a thermal station is set up the financial implications will be fully examined. If firm hydro-electric power is available a thermal station would obviously be unnecessary.
(Statement laid on the Table on the 19th December, 1952).

The recommendations have been noted for future guidance.

(Statement laid on the Table on the 25th September, 1954).

63 133 There must be methodical phasing of different stages of the execution of projects so that machinery and equipment released by one may be used at another without causing any delay in the execution of work and thus preventing expenditure being incurred on the purchase of heavy machinery which is already available.

Accepted to the extent practicable.
(Statement laid on the Table on the 19th December, 1952).

The recommendations have been accepted to the extent practicable. The subject will also be discussed at the Engineers' Seminar.

(Statement laid on the Table on the 25th September, 1954).

64 134 A well equipped workshop should be maintained for carrying out repairs and reconditioning of machinery, plant etc. Before placing indents

This is being done even now.
(Statement laid on the Table on the 19th December, 1952).

1

2

3

4

for machinery abroad every step should be taken to use the available stores and plants etc. and as far as possible the existing machinery should be reactivated and used in the projects.

This is already being done. No further action is necessary. (Statement laid on the Table on the 25th September, 1954).

CHAPTER III

REPLIES OF THE GOVERNMENT THAT HAVE BEEN ACCEPTED BY THE COMMITTEE

S. No.*	Ref. to para No. of the Report	Summary of Recommendations	Reply of the Government
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1	2	3	4
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25

THE CENTRAL WATER AND POWER COMMISSION

3 15 A Committee consisting of the Chairman of the Commission and Secretaries of the Ministries of Finance and Natural Resources and Scientific Research, should be appointed under the Chairmanship of the Minister of Natural Resources and Scientific Research to scrutinise the detailed plans, etc. of a scheme.

As a rule, Project Reports are scrutinized by *ad hoc* committees of technical experts. The reports of such committees are discussed both in the Planning Commission and at inter-Ministerial conferences which are a regular feature. In view of the procedure that is being followed, it is not necessary to appoint a third non-technical committee such as the one recommended by the Estimates Committee.

(Statement laid on the Table on the 19th December, 1952).

Note:—Sl. No. indicates the S. No. of the recommendation as given in the Appendix to the Fifth Report.

The schemes as approved by this committee should be referred to the Planning Commission and after the Commission has advised on the priority or on the questions of undertaking the scheme the whole scheme together with the recommendations of the Planning Commission should be considered by the Cabinet and further action taken in accordance with their orders. Any variations from the principles underlying the scheme should not ordinarily be made without the prior approval of the Cabinet.

In view of Government's decision, no action is called for.
(Statement laid on the Table on the 25th September, 1954).

DAMODAR VALLEY PROJECT

9 28 A Committee should be appointed to investigate the work done by the Rehabilitation and Development Department and whether the work done is commensurate with the

A Committee has been appointed with terms of reference sufficiently comprehensive to include many of the points raised by the Estimates Committee.

HIRAKUD DAM PROJECT

20 It is a waste of talented man-
power to appoint Execu-
tive Engineers or Assistant
Engineers as Personal Assis-
tants to Senior Officers to
look after their Office work.
Government should review the
whole organisation to ensure
that technical men are not
appointed to non-technical
posts.

The term 'Personal Assistant' is a misnomer when applied to those
Officers who are really attached technical Officers. Their
designations will be changed suitably to correspond with their-
functions.

(Statement laid on the Table on the 19th December, 1952).

The designation of Personal Assistants has been changed and the
changed form, which is as follows is in use in all Official cor-
respondence :—

Old Designation	New Designation
P. A. to Chief Engineer	Ex. Engineer P. A. to the Chief Engineer.
P. A. to the Superintending En- gineer.	Ex. Engineer. P.A. to the Superintending Engineer.
P. A. to Ex. Engineer	Asstt. Ex. Engineer. Asstt. En- gineer. P. A. to Ex. Engineer.

(Statement laid on the Table on the 25th September, 1954).

24 The Chief Engineer should not give all the contracts himself as at present. The Superintending Engineer should sanction contracts upto Rs. 50,000 and the Chief Engineer between Rs. 50,000 and Rs. 2,00,000. All works costing more than Rs. 2 lakhs should be given out on contract after approval by the Contract Board consisting of the Chief Engineer of Orissa, Chairman of the Central, Water & Power Commission, the Chief Engineer and Financial Adviser, Hirakud Dam Project.

In the matter of giving contracts, certain powers have been delegated to the local offices by the Hirakud Control Board. As the Control Board is now in overall charge of the project no action is necessary on this recommendation.

(Statement laid on the Table on 19th December, 1952).

In view of the position explained in Government's decision, no action is called for.

(Statement laid on the Table on 25th September, 1954).

25 There is no justification for sanctioning the posts of gazetted Personal Assistants in the rank of Assistant Engineers and S.D.Os. to look after the custody of the machinery. Indiscriminate sanctioning of gazetted and non-gazetted posts should cease. All posts should be created with the approval of an Appointment Board consisting of the Chief Minister of Orissa Government, Financial Adviser, the

It seems as if the position was not properly put before the Estimates Committee. Where earth-moving equipment is employed, it is necessary to appoint S.D.Os. (Mech.) to operate the machines and S.D.Os. (Civil) to measure the work done. This however does not mean that two engineers are employed where one would normally suffice as the sum total of engineering Officers on any particular work will under this arrangement remain the same. That is, instead of having two Sub-Divisional Officers (Civil) it has been so arranged that one of them will be a mechanical engineer and one civil.

(Statement laid on the Table on the 19th December, 1952).

Chief Engineer, Hirakud and the Chairman of the Central Water & Power Commission. Before sanctioning a post the Board should call for complete data and examine the volume of work involved therein carefully. The reasons for the creation of each post should be recorded in writing and the financial effects worked out in advance.

In view of the position explained in Government's decision no action is called for.

(Statement laid on the Table on the 25th September, 1954).

BHAKRA

NANGAL PROJECT

28 92 Government should consider in consultation with the State Governments concerned the desirability of exploring other sources of income in the form of levy of agricultural income-tax in order to increase the revenues for financing the scheme.

This matter has been dealt with by the Planning Commission.

(Statement laid on the Table on the 19th December, 1952).

No further action is called for.

(Statement laid on the Table on the 25th September, 1954).

KAKRAPARA PROJECT

32 100 This project should also be modelled on the principles enunciated and brought in line with organisational set-up of

As the project is located in a single State (Bombay) the nature of the organisational set-up will be determined in consultation with that State.

(Statement laid on the Table on the 19th December, 1952).

the other big projects so that the work proceeds on organised basis from the very beginning and is completed within the scheduled time and the estimated cost.

Some of the outstanding issues relating to the Kakrapara Project have been settled. At the instance of the Government of Bombay the construction of the project is being transferred to the State Government.

(Statement laid on the Table on the 25th September, 1954).

GENERAL

121 Government should give careful consideration to the institution of a central fund called "The River Valley Development Schemes Fund" for financing the River Valley Schemes and bring necessary legislation before Parliament for its approval. There should also be uniformity in the betterment levy in respect of the various River Valley Schemes.

The proceeds of a betterment levy in areas benefited by a project serve as a partial set off against the capital cost of that project. The recommendation that the proceeds of such a levy should go into a common pool cannot be accepted. Uniformity cannot be insisted on in the levy of betterment fees. The rate regarded as reasonable in an area of low rainfall may be regarded as excessive in an area of heavy rainfall. Each case should be decided on its merits.

Statement laid on the table on the 19th December, 1952).

The position has been explained in Government's decision.

(Statement laid on the Table on the 25th September, 1954).

123 The question of improving labour remuneration should be explored and in cases where large labour force is employed piece rate of wages should preferably be enforced.

In view of the difficulty of ensuring proper control over daily labour, engineers are generally averse to the direct employment of labour on daily wages on muster roll basis. Experience shows that works executed on the basis of daily labour generally prove more expensive to Government. Engineers however prefer the job or piece-work system where small groups of workers

53 123 Contd.

under a headman undertake work on a unit rate basis. Properly supervised, this system is capable of giving adequate return to labour while keeping the cost of a work well within what could be achieved on a bulk-contract. A copy of para 123 has been circulated to the construction authorities for their comments and their comments are awaited.

(Statements laid on the Table on the 19th December, 1952)

The comments of D. V. C. and Bhakra Project authorities and of the Hirakud Control Board are attached (Appendix I). A reference is also invited to the recommendations of the sub-Committee appointed by the C. B. I. & P. to go into the matter.

“As regards the entrustment of entire work of the execution of a major dam to a single Indian contractor or a combine of Indian contractors, the committee felt that generally speaking Indian contractors with requisite resources and organisation do not exist at present in sufficient numbers to ensure competitive bids. It, therefore, recommends that the work on major dams should be split up into convenient parts and executed by a combination of methods, such as contract for selected parts of works, work order or piece work system for other parts and Force Account System (Muster Roll) where that would be more suitable. A judicious combination of these methods will give the obvious advantages of flexibility, economy and efficiency. Buildings, Bridges and Masonry structures should ordinarily be done on contracts except where such a course is unsuitable or

uneconomical. Earth-work should be done on a piece work basis of contract, as may be found suitable. Exploration surveys etc. are best done departmentally. Works for which machinery owned by Government is largely used, should be done on the Force Account System or Muster Roll. Regarding the award of contract, the sub-Committee makes the following recommendations :—

(i) For works the estimated cost of which exceeds Rs. 5 lakhs tenders should be publicly invited by advertisement in the press. These works should, as far as possible be let out to contractors or construction firms of repute, on work order, piece work or codal contract at the direction of the sanctioning authority.

(ii) For works costing between Rs. two and five lakhs, the same procedure as in (i) above should be followed except that publicity be limited to all divisions of the project and to local engineering offices, for example, Railways M. E. S., Municipal Boards and C. P. W. D.
Sufficient time must be allowed to intending tenderers in the above cases.

(iii) Works may be given without calls for tenders if found necessary in the interest of the work within the approved scheduled of rates :—

Upto Rs. 2,500 by S. D. O.

Upto Rs. 10,000 by Executive Engineer.

Works upto Rs. 50,000 may be given on work orders by the Executive Engineer with the permission of the Superintending Engineer for good and sufficient recorded reasons.

The Chief Engineer may in particular cases specify a lower limit. A list of contractors, approved by the Superintending Engineer should be maintained for allotment of work on piece work or work order.

A schedule of rates, approved by the Chief Engineer under the general direction of the Control Board, should be maintained on the project and revised periodically.

The Committee feels that there is at present tendency to accept only the lowest tender. It observes that this is not a healthy practice as the lowest tender is not necessarily the most suitable. Where rates are not reasonable or the contractor is not regarded as satisfactory, the contract may be awarded to a higher tenderer after recording full reasons for doing so."

(Statement laid on the Table on the 25th September, 1954)

56 126 There should be specific machinery for ensuring full control of Parliament over the various schemes. All plans, estimates etc., relating to a scheme should be laid before Parliament, with a positive motion seeking its approval thereto. Similarly, whenever any changes in the plans or estimates are required to be made, specific approval of Parliament should be obtained.

The normal procedure for securing the approval of Parliament for expenditure proposals will continue to be followed.

(Statement laid on the Table on the 19th December, 1952)

The position has been explained in Government's decision.

(Statement laid on the Table on the 25th September, 1954)

58 There should be in the Ministry of Finance a Planning Section to review all development plans relating to the River Valley Schemes from the administrative, technical and financial points of view. All such reviews should be placed before the Parliament and the Estimates Committee.

The Planning Commission will review the development plan including those pertaining to River Valley Schemes.

(Statement laid on the Table on the 19th December, 1952).

This is being done by the Planning Commission.

(Statement laid on the Table on the 25th September, 1954).

66 There should be strict orders against the misuse of vehicles, trucks, motor cars, etc. maintained by the project organisations and expenditure thereon should be controlled. No car or vehicle should be used except on official purpose.

It is not desirable to prohibit entirely the use of Government vehicles for private purposes in out of the way places where projects are generally located. Such use should however, be properly regulated and payment at stipulated rates should be enforced.

(Statement laid on the Table on 19th December, 1952).

Government's decision has been communicated to the Project authorities for compliance.

(Statement laid on the Table on the 25th September, 1954).

CHAPTER IV

REPLIES OF THE GOVERNMENT THAT HAVE NOT BEEN FINALLY ACCEPTED BY THE COMMITTEE AND ARE BEING PURSUED

Sl. No.	Ref. to para No. of the Report	Summary of Recommendations	Reply of the Govt.	Comments of the Committee
1	2	3	4	5

THE CENTRAL WATER AND POWER COMMISSION

4	16	A list of experienced engineers who have rendered at least 15 years service as Executive or Superintending Engineers and above, in all branches and from all parts of the country should be drawn up for various posts in the Commission. The Chairman and Members of the Commission	The recommendation is accepted and steps are being taken to compile a list of experienced engineers. It is also proposed to request the State Governments to provide for deputation reserve to enable the Centre to draw on the	The present position may be intimated by the Ministry. The Ministry may furnish for the information of the Estimates Committee the number of experienced engineers at present included in the list showing statewide distribution experience, qualifications and
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*Sl. No. indicates the Sl. No. of the recommendation as given in the Appendix to the Fifth Report.

†Statement showing replies of the Government in respect of the comments of the Committee is reproduced at Appendix IV.

should each be qualified engineers possessing high technical qualifications and vast experience in the respective branches of engineering.

States for its requirements of engineers. (Statement laid on the Table on the 19th December, 1952).

The list has been compiled. See also progress of action indicated against recommendation No. 55 (Chapter II).

(Statement laid on the Table on the 25th September, 1954)

5 17 As result of the reorganisation of the various branches of the Commission recommended by the Committee, the number of Directors in the Commission should be reduced from nine to five, with a corresponding reduction in the rank of Deputy Assistant and Extra Assistant Directors. (Minus 4 Directors, 7 Deputy Directors and 9 Extra Assistant Directors).

the posts that they are occupying now.

The recommendations of the Menon Committee who have gone into the question of the reorganisation of the branches of the Commission in great detail are under consideration.

(Statement laid on the Table on the 19th December, 1952).

(5 & 7) The recommendations of the Special Reorganisation Unit Regarding the strength in each grade in the C.W.P.C. have been accepted except S. No. 5 and 7. The Ministry should state in a tabular statement the number of posts abolished (from time to time since the Committee made

in regard to (i) the post of a full-time Chairman and (ii) the strength of officer and staff for the Information Bureau and Library. As regards (i) it has just been decided that there should be four Members in addition to the full-time Chairman, one of the Members' posts being temporary upto the end of 1955-56. In regard to the latter question, the Librarian, National Library, Calcutta was asked to examine the requirements. His report, which has just been received, is under consideration.

(Statement laid on the Table on the 25th September, 1954).

6 . 18 Schemes involving expenditure of non-productive nature such as construction of buildings and filling up posts for which there is not adequate work etc. should be deferred. The proposed expansion and reorganisation of the Research Station at Poona should be reviewed and no further

their recommendations) and the savings in rupees per annum. They may also intimate (i) whether any decision has been taken regarding the continuance of the fourth member from 1-3-1956 and (ii) whether final decision has been taken on the report of the Librarian, National Library. A copy of the Librarian's report may also be sent to the Committee.

It is observed that there has been an increase in the number of officers and staff of the Central Water and Power Station during the years 1954-55 and 1955-56. The Ministry may give the Committee a short note detailing the achievements of the Station showing also the actual expenditure and the

financial commitments made unless there is a definite possibility of expansion of work in the near future. The posts of Research Officers and Assistant Research Officers which have been lying vacant at this Station, should be kept in abeyance.

The Hydraulic Research Station at Poona is a vital adjunct to the various irrigation projects and as expenditure can be reduced very often by a study of the results obtained from experiments conducted at this Station the money spent on the proposed expansion should be regarded as a valuable and necessary investment.

number of the staff in each of years since 1950-51.

(Statement laid on the Table on the 19th December, 1952).

The first part of Governments' decision is already in force. No action is called for in the second part.

(Statement laid on the Table on the 25th September, 1954).

7 19-20 (i) In the event of the investigations of certain river valley projects being stopped or in the case of investigations of the Kosi Project being concluded, the following gazetted and non-gazetted staff would be rendered surplus

Class I	. . .	31
Class II	. . .	29
Class III	. . .	440
Class IV	. . .	193

(ii) A Committee consisting of the Ministries of Home Affairs, Finance and Natural Resources & Scientific Research should be set up to examine in detail the reorganisation of the Commission and effect an overall reduction in staff both gazetted and non-gazetted consequent on the discontinuance of investigation work as mentioned above. Until the reorganisation of the Commission's Office has been completed no new post neither in the gazetted or non-gazetted cadre should be created or filled up.

The staff position is being examined in the light of the recommendations of the Memorial Committee appointed by the Finance Ministry.

(Statement laid on the Table on 19th Dec. 1952).

For further reply please see S. No. 5 above.

(Statement laid on the Table on 25th September, 1954).

Please see S. No. 5 above.

8

The expenditure on Travelling Allowances should be drastically cut and frequent touring of officers should be stopped. Expenditure on T.A. and under the head "Other Charges" should be reduced by at least 50 per cent.

An arbitrary cut in the Travel-ling Allowances provision cannot be accepted but the Ministry will periodically scrutinise the expenditure to ensure that there is no unnecessary or excessive touring by officers.

The expenditure under T.A. since 1950-51, annually may be intimated.

(Statement laid on the Table on the 19th Dec., 1952).

The scrutiny is being done.

(Statement laid on the Table on the 25th Sept., 1954).

DAMODAR VALLEY PROJECT

10

The question of the cost of production of power should be studied carefully and the result of such studies placed before the Estimates Committee in due course.

Please see S.No. 9 (Chapter III).

(Statement laid on the Table on the 19th December, 1952).

DVC have already studied the Nos. 10-11

cost of the production of A note may be called for showing :-
power at Bokaro and showing
Tilaiya at full load and according to them Bokaro Power would be costing 0.42 anna per unit whereas Tilaiya power will be costing 1 anna

(i) the results of study by the Damodar Valley Corporation on the cost of production of power;

per unit. The cost of production will be studied further after the entire power system of DVC have been commissioned and the results placed before Estimates Committee.

(Statement laid on the Table on the 25th Sept., 1954).

(ii) the total hydro-electric power generation after completion of the D.V.C. scheme as contemplated;

(iii) the cost per unit ;

(iv) the comparative cost in other hydro-electric systems in India both at the present rate of production and the peak rate of production of the various units ; and

(v) the amount realised by sale of electricity.

11 38 The Estimates Committee should be informed in due course of the result of investigations being carried out by the Government for keeping the overhead charges at the lowest level possible.

Please see S. No. 9 (Chapter III)

(Statement laid on the Table on the 19th Dec., 1952).

The C.W.& P.C. had already undertaken a study of the percentages of overheads in regard to DVC and other projects and came to the following conclusions :

Damodar	12.6%
Bhakra Nangal	6.0%
Hirakud	8.2%

Please see S. No. 10.

A further study was made in 1952-53 and the result was as follows :—

Damodar	8.3%
Bhakra Nangal	9.6%
Hirakud	5.9%

Due to further changes in the estimated cost of the DVC Projects another study has been taken up by the C.W.&P.C. based upon the latest figures. The results will be intimated to the Estimates Committee.

(Statement laid on the Table on the 25th September, 1954).

12 (i) The Bokaro Thermal Station should be completed as early as possible. A body of experts should investigate whether full value of the money spent on this project has been obtained.

40 Please see S. No. 9 (Chapter III) Present position of the investigation may be intimated.

(Statement laid on the Table on the 19th December, 1952).

The final complete detailed estimates are awaited from the DVC. The C.W.& P.C.

(ii) An expert body should examine whether indigenous talent would not have done the work in respect of Komar Dam at a lesser cost.

(PW) will be asked to carry out the necessary investigations as required by the Estimates Committee on receipt of the final estimates.

An enquiry Committee was appointed and their report has been placed before the Estimates Committee.

(Statement laid on the Table on the 25th Sept, 1954.)

17 55 The figures of net revenue worked with reference to the capital outlay are contingent upon the fulfilment of a certain progress, timely investment according to schedule and the income as anticipated. As there are apparent catches in these three factors and the results cannot be expected to flow as anticipated, a thorough investigation should be made to arrive at as near a correct figure as possible.

Please see S. No. 9 (Chapter III) *(Statement laid on the Table on the 19th December, 1952).*

The Corporation reviewed the return from the capital invested on the DV Project in October, 1953, on the basis of the latest figures. 4.29% is expected as net revenue on capital outlay plus interest during construction.

(Statement laid on the Table on the 25th September, 1954).

The Ministry may furnish the comparative figures of return from the capital invested on each of their projects.

HIRAKUD DAM PROJECT

23 Grant of the Construction Allowance to the staff should be discontinued, as the provision of rent-free quarters and free supply of water and electricity afford adequate relief to the staff for loss of other amenities.

The matter is under consideration of the Hirakud Control Board.
(*Statement laid on the Table on the 19th December, 1952*).

The recommendation of the Hirakud Control Board in regard to the continuation of the construction allowance up to 31-3-1954 had been accepted. The concession of rent-free quarters has, however, been withdrawn. The question of continuation of the construction allowance beyond 31-3-1954 is under consideration by the Control Board.

(*Statement laid on the Table on the 25th September, 1954*).

26 The appointment Board referred to above should also consider reduction of the

This is a matter for examination by the Hirakud Control Board.

The Ministry may state whether the construction allowance is still being paid from 1-4-1954 and if so, the justification therefor especially now that the Project should have become a fully developed township. In view of free supply of water and electricity, the amount of construction allowance should at least have been suitably reduced.

The Ministry should categorically state whether there has been any reduction of the over-

over-staffed Chief Engineer's Office and re-organize the staff after prescribing proper scales of work for all posts.

staffed Chief Engineer's Office and also whether any re-organisation has been effected. A note on the functions of the Hirakud Control Board may also be submitted.

(*Statement laid on the Table on the 19th December, 1952*).

Sanction for the revised strength of officers and staff have been issued based on the recommendations of the Hirakud Control Board.

(*Statement laid on the Table on the 25th September, 1954*).

BHAKRA NANGAL PROJECT

Government should seriously consider the question of having a permanent and effective body to co-ordinate the interests of the three participating States and the Centre. The appointment of an *ad hoc* Control Board with the Governor of Punjab as the Chairman in his personal capacity does not appear to be satisfactory. Government should consider the feasibility of having a semi-autonomous Board for such State enterprises with a

The future set up of the present Control Board, which is functioning satisfactorily is under consideration. (*Statement laid on the Table on the 19th December, 1952*).

S. Nos. 27 & 31.

No final decision has been taken regarding the permanent set up for the administration of this project. The matter will be discussed with the State Government concerned shortly.

(*Statement laid on the Table on the 25th September, 1954*).

qualified engineer and a financial expert as Members. Government should consider the above questions and make necessary funds available so that the non-provision of funds in time may not impair the speedy execution of the project and render it uneconomic.

31

96

The organisational set-up of the Bhakra-Nangal project should be remodelled as per the principles laid down by the Committee.

Please see S. No. 27.

The Corporation idea will be re-examined in the light of the recommendations made by the Committee appointed by Government to go into the affairs of the D.V.C. (See remarks against recommendation 27).
Statement laid on the Table on the 19th December, 1952).

GENERAL.

40

110

(ii) Officers of the Central Government should not be appointed to the Board while they hold appointments under the Central Government. In case any such Officer is appointed he should sever all connections with the Central Government.

The recommendation is not accepted.
(Statement laid on the Table on the 19th December, 1952).
In view of Government's decision, no action is called for.
(Statement laid on the Table on the 25th September, 1954).

The recommendation of the Estimates Committee was that Officers of the Central Government should not be appointed to the semi-Autonomous Board while they hold appointments under the Central Government and in case any such officer is

appointed to the Board or under it, he should sever his connection for the time being with the Central Government. The intention was that an officer should be free to function in the Board or under it, as its Officer without holding simultaneously an office under the Central Government. The reasons for non-acceptance of the recommendation may be stated.

44 The headquarters office of the project organisation should be located near about the site to enable the Board to watch the progress of work.

Accepted.

(*Statement laid on the Table on the 19th Dec. 1952.*)

Deviations from Govt's. decision have been explained in the statement laid on the Table of the House in July, 1953 (Appendix II).

(*Statement laid on the Table on the 25th September, 1954.*)

The Ministry may be asked to give a report in respect of all the projects where the recommendation has not been followed. The Ministry may also state (i) whether the headquarters of the Kosi Circle has since been shifted from New Delhi and (ii) what was the comparative cost of pay and allowances to the staff if the headquarters of a project were near the project site in relation to allowances payable to them in big cities and travelling

expenses during frequent visits from headquarters situated elsewhere to the project site.

The Committee reiterate their recommendation and also desire that the Ministry should submit a report on the results of the Bhakra experiment.*

The working of the Cost Accounting cell which has been constituted in Bhakra is being watched. Steps will be taken to constitute similar cells in other projects if the results of the Bhakra experiment justify such an extension.

(Statement laid on the Table on the 19th December, 1952).

The report of the working of the cost accounting cell at Bhakra is awaited from the Government of Punjab.

(Statement laid on the Table on the 25th September, 1954).

The recommendation as it stands is un-exceptionable. But the rate of flow of funds will of necessity have to be determined by the budgetary position.

(Statement laid on the Table on the 19th December, 1952).

The Estimates Committee are aware that the rate of flow of funds for any project will of necessity have to be determined by the budgetary position. They were, however, anxious that in the interest of economy and efficiency the position regarding the flow of funds to complete the project within

A cost Accounting organisation for each project should be set up as soon as the scheme is sanctioned, and should act as search-light, point out the bacilli of waste and the directions in which improvement is needed.

Government must ensure provision of adequate finance before starting a scheme. Once a scheme has been approved by them and put into operation funds should flow according to the schedule of work.

*Further reply received from the Ministry of Irrigation and Power has been reproduced at Appendix III.

The position has been explained in Government's decision.

(Statement laid on the Table on the 25th September, 1954).

the time envisaged in the plans should be considered in advance while sanctioning the scheme, and with reference to the progress of expenditure each year there should be every endeavour to provide the necessary sum for unhindered progress of work during the financial year. The Committee would like to have detailed information showing how this is ensured.

59 A Central Engineering Service consisting of Irrigation Engineers should be started from which trained engineers could be drawn for work on various schemes.

Accepted. The proposed Central Engineering Service will include within its scope Irrigation and Power Engineers

The Ministry should state whether the Service of Irrigation and Power Engineers has since been formed.

(Statement laid on the Table on the 19th December, 1952).

Action is being pursued on the formation of the All India Service of Irrigation and Power Engineers.

(Statement laid on the Table on the 25th September, 1954).

The Central Government should in consultation with the State Governments, consider the question of starting an Engineering and Technical Institute for the training of promising young men in order to meet the paucity of qualified technicians to handle the construction of dams and barrages. This institute may also impart training on designs on the lines of Designs Organisation existing in the U.S.A.

The problem is less one of dearth of engineering graduates than of engineers who have specialised in certain branches of engineering. To remedy this state of affairs a scheme is under consideration for giving advanced training in designs and in the construction of dams and barrages.

The Ministry may submit a note for the Committee stating as to whether the scheme for training of officers has materialised, and if so, how many officers have been trained thus.

The Ministry may also state the position regarding the setting up of a Central Institute. The Committee desire to reiterate their recommendation for starting an Engineering and Technical Institute for giving post-graduate training to engineers.

(Statement laid on the Table on 19th December, 1952).

No final decision has yet been taken on the question of setting up a Central Institute for training purposes. A new scheme to impart training in the Projects under construction and in the C.W. & P.C. to 30 fresh Engineering Graduates and 15 Engineer Officers employed in States has been formulated and is under active consideration. Schools are also

being opened at Chambal and Hirakud to give training in operation and maintenance of earth moving machinery, under the T.C.A. scheme.

(Statements laid on the Table on 25th September, 1954).

64 135 Immediate action should be taken to appoint a Committee of two or three engineers, unconnected with the river valley organisation, which should examine and make recommendations regarding the proper maintenance of stock registers and verification of stores, equipment, etc. That Committee should assess the loss so far sustained by the various organisations on this account and suggest punishments if losses have occurred through the negligence of the persons concerned.

The systems of store-keeping on the various projects are being examined and if the examination reveals that any losses are being incurred owing to the existence of any defects the question of appointing a committee will be considered.

(Statement laid on the Table on the 19th December, 1952).

The Ministry may analyse the findings of the Committee set up to investigate rates of work on river valley projects.

There was difficulty in obtaining the services of a suitable team of officers for appoint-

ments to the Committee to examine the Stores Procedure. This work has now been entrusted to the Committee that has already been set up to investigate rates of major items of work on river valley projects, in consultation with the Comptroller and Auditor-General.

(Statement laid on the Table on the 25th September, 1954).

67 137 There should be separate and distinct agencies for carrying out different functions of the projects and the practice of entrusting and associating a designing agency for supplying stores, plant or machinery and inspection of the same should be avoided.

The recommendation is accepted in principle.

(Statement laid on the Table on the 15th December, 1952).

Necessary directions have been issued to project authorities in the matter.

(Statement laid on the Table on the 25th September, 1954).

The Ministry may indicate how far this recommendation has been followed in subsequent projects.

NEW DELHI;

The 2nd March, 1957.

BALVANTRAY G. MEHTA,

Chairman.

Estimates Committee,

APPENDIX I'

(Vide S. No. 53. Chapter III)

COMMENTS OF PROJECT AUTHORITIES ON RECOMMENDATION NO. 53 IN THE 5TH REPORT OF THE ESTIMATES COMMITTEE

(a) *Comments of D.V.C.*—Daily labour in our organisation is paid at the local market rates. While payment on piece rate basis is desirable, so far D.V.C. practice has been in favour of muster roll as there was not much scope for piece work. Most of our departmental works, including stone crushing, earth cutting etc., are done by machines and labour is employed casually on odd jobs which are not generally susceptible of measurement for applying unit rates. We have, however, introduced the piece rate system in our Timber Workshop as an experimental measure. Its extension to construction works is also contemplated.

(b) *Comments of Bhakra Project Authority.*—The project authorities would only be too glad to adopt and enforce the system of letting out work to groups of workers on piece work system based on a unit rate basis, but the chief opposition to this system comes from the workers themselves who have persistently refused to work on piece-work wages. For obvious reasons, they find it more convenient to work on the daily wage system on muster rolls or on monthly wages on acquittance rolls, as the payment of wages is not subject to any guarantee of out-turn of work. It, therefore, suits them to work on the daily or monthly wage system.

(c) *Comments of the Secretary, Hirakud Control Board.*—The Control Board in the IVth meeting [(vide item 5 (2))] opined that piece work system should be tried by the Chief Engineer on some portions of the Main Dam both for rubble masonry work as well as stone pitching and rates for this season fixed by him in the light of tenders received. The Board hoped that it would be possible to devise a method by which payment could be made to piece workers on a fixed day every week for the work done.

APPENDIX II

(Vide S. No. 44, Chapter IV)

ESTIMATES COMMITTEE'S FIFTH REPORT ON THE C.W.P.C. AND MULTI-PURPOSE RIVER VALLEY PROJECTS—DEPARTURE FROM THE DECISIONS ALREADY TAKEN REGARDING HEADQUARTERS OFFICES

Sl. No. of the recommendation	Ref. No. of the Report	Recommendation	Decision	Deviations from decision already taken
1	2	3	4	5

44 114 The headquarters of the Project organisation should be located near about the site to enable the Board to watch the progress of work.

(1) The headquarters of the Delta Irrigation Circle of the Hirakud Dam Project will continue to be at New Delhi. The Superintendent Engineer in charge of the Circle has been instructed to spend about three weeks every month in the Delta area.

Reasons : The field work in connection with the investigations in the Delta area would be completed by October

1953. Thereafter most of the design work will have to be done at New Delhi, in consultation with the Central Designs Organisation of the Central Water and Power Commission. Further the transfer of Headquarters will involve heavy expenditure on rent of buildings, and allowances to the personnel. It has therefore been decided to continue the existing arrangements.

(2) The Headquarters of the Kakrapar Project will continue to be at Bombay. The Superintending Engineer in charge of the Project has been instructed to spend a minimum of three weeks in a month at the site of works allowing himself one week for office work at Headquarters.

Reasons : The transfer of headquarters to the site of the works will necessitate construction of a large number of quarters for the officers and staff. The bulk of the work that was concentrated at Kakrapar itself is nearing completion. The remaining work is spread

over a wide area. In the circumstances it was decided not to shift Superintending Engineer's headquarters from Bombay.

(3) The transfer of the headquarters of the Kosi Circle from New Delhi has been postponed till the Project Report is submitted and final decision is taken on the execution of the Project.

Reasons : The investigations on the Project have nearly been completed and the work of preparation of designs, plans, estimates and report is in hand. All this work has to be done at New Delhi in close consultation with the Central Designs Organisation and Hydro-electric Branch of the Central Water and Power Commission. The Superintending Engineer in charge of the Circle will, therefore, be required to come to Delhi often along with his technical staff for finalising the Project estimates and design. Apart from the expenditure involved on allowances to the personnel, it is administratively convenient to retain the Headquarters of the Superintending Engineer at New Delhi for the present.

APPENDIX III
GOVERNMENT OF INDIA
MINISTRY OF IRRIGATION AND POWER

No. 11(I)/57-Policy

New Delhi, the 26th February, 1957.

Office Memorandum

SUBJECT:—*Draft Report on the action taken by Government on the recommendation contained in the Fifth Report of the Estimates Committee.*

The undersigned is directed to refer to the Lok Sabha Secretariat's letter No. 6-EC.I/57 dated the 19th February, 1957 on the subject mentioned above and to forward herewith a statement showing factual discrepancies in the draft Report (February, 1957).

It is submitted in this connection that material in respect of the points raised by the Estimates Committee *vide* Lok Sabha Secretariat's Office Memorandum No. 13-EC.I/55 dated the 7th December, 1955 and No. 13-EC. I/56 dated the 6th February, 1956, has to be collected from different project authorities and checked and compiled. Since replies were received at different dates, it took time for consolidation. There has consequently been delay in the submission of the information. A statement giving the necessary information on the points except four is being forwarded to the Lok Sabha Secretariat separately.* Steps have also been taken to ensure that no such delay occurs in future and that information as and when received is vetted and transmitted to the Lok Sabha Secretariat in batches without waiting for consolidation. The material in respect of 'cost accounting' (referred to in para 2 of the draft report) which has been included in the statement is reproduced below:—

“The cost accounting procedure is already in force at Damodar Valley Corporation & Hirakud Projects. A cost accounting cell was started at Bhakra early in 1956. There was some delay in the opening of the cell at Bhakra owing to the shortage of experienced accounting personnel. In view of the importance of cost accounting in the execution of the projects, Ministry of Irrigation and Power without waiting for an assessment of the cost accounting work at Bhakra, asked the State/Project authorities concerned with the execution of the major projects *viz.* Chambal, Rihand, Koyna, Nagarjunasagar and Kosi

* The statement may be seen at Appendix IV.

to set up cost accounting units on these projects (14-3-1955). The present position is that at Chambal, necessary staff has recently been sanctioned by the Chambal Control Board. Further action is being taken. At Kosi, the accounts organisation is being formed. Rihand, Koyna and Nagarjunasagar Projects are only in their preliminary stages of construction at present; cost accounting cells are expected to be opened at these projects at the appropriate time. Tungabhadra Project (Board area) has been substantially completed and it is not considered necessary to introduce cost accounting procedure here, at this stage. The Rates & Costs Committee who were asked to make recommendations on a uniform cost accounting organisation on river valley projects has submitted its report which is now under examination by the Government. Modifications, if any, to the existing arrangements recommended by the Committee will be communicated to the State/Project authorities concerned for implementation."

It is requested that the Estimates Committee may kindly be apprised of the position explained above in connection with the finalization of the draft Report.

Sd/- T. SIVASANKAR

Secretary to the Govt. of India.

To

The Lok Sabha Secretariat,

(Shri A. R. Shirali),

New Delhi.

APPENDIX IV

Statements showing replies of the Government in respect of the Comments of the Committee in Chapter IV of this Report.

Recom- men- dation No.	Para. No.	Remarks of Government
1	2	3
1	13	The decision has been implemented with the appointment of Shri Kanwar Sain as Chairman, Central Water and Power Commission, w.e.f. 17-6-53 without <i>ex-officio</i> secretariat status.
4	16	The register of irrigation and power engineers in the public sector in respect of all States, except Madras, Madhya Bharat (since integrated with Madya Pradesh) and Jammu & Kashmir had been drawn up. It was intended to complete the register in respect of these three States as soon as the full information asked for from these States was received. A circular was also issued through the press in June 1956 wherein the engineers employed in the private sector and all engineers who had retired from Government service and the private sector were requested to furnish full particulars about themselves to the C.W.P.C. in the <i>proforma</i> prescribed. It was then brought to the notice of the Ministry that the C.S.I.R. was already engaged in compiling a comprehensive register of all categories of engineers including Irrigation and Power Engineers and maintaining it up-to-date. The Council is now keeping the information in the card index system. In order to avoid duplication of work it has been decided that the C.S.I.R. will compile and maintain a register of irrigation and power engineers and that the C.W. & P.C. will help the Council by making all Govts. municipalities, corporations, etc. to send the information at regular intervals. The register so far compiled by the C.W. & P.C. have therefore been transferred to C.S.I.R.

1	2	3
5&7	17, 19 & 20	<p>Information with regard to the posts abolished on the basis of the recommendations of the Special Reorganisation Unit regarding the strength in each grade in C.W.& P.C. and the savings in rupees per annum is given in the statement at Annexure I.</p> <p>The post of the fourth member has been extended for a further period of three years from 1-3-1956.</p> <p>The post sanctioned on the basis of the recommendations made by the Librarian, National Library Calcutta, are shown in the statement at Annexure II.</p>
6	18	<p>A short note detailing the achievements of the Central Water and Power Research Station, Poona showing also the actual expenditure and the number of staff employed during each year since 1950-51 will be found at Annexure III.</p>
8	21	<p>The required information is given in the statement at Annexure IV.</p>
10&11	36&38	<p>(i) (a) Cost of generation in the D.V.C. power system on the completion of the projects, as contemplated at present, is estimated to be 0.384 anna per unit.</p> <p>(b) With Bokaro Thermal Station running independently cost per unit generated is 0.416 anna.</p> <p>(c) Cost per unit of generation at the hydro-electric stations alone is 0.441 of an anna on the basis of the present allocation of cost of dams to "Power".</p> <p>(ii) Total amount of hydro-electric power generated after completion of the D.V.C. Power System, as contemplated now, would be 549 million KW.</p> <p>(iii) Kindly see items (i) (a) and (c)</p> <p>(iv) A statement containing the required information will be found at Annexure V.</p> <p>(v) The revenue from the sale of electric energy during 1955-56 amounted to Rs. 136 lakhs and from 1952 to the end of 1955-56 amounted to Rs. 323.24 lakhs.</p> <p>The revenue expected on full development will be about Rs. 865 lakhs per annum.</p>

1	2	3
---	---	---

The result of the study taken up by the Central Water and Power Commission on the basis of the latest figures is available in respect of the Hirakud and D.V.C. projects. The percentages for the years 1948-49 to 1954-55 are given below:—

Project	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55
D.V.C.	22.78	23.39	19.14	13.57	10.83	10.78	10.55
Hirakud	60.11	13.75	11.06	8.26	7.55	9.05	7.41

The position about Bhakara Nangal Project will be intimated as soon as 'overhead' figures for this project are finalised.

- | | | |
|----|-------|--|
| 12 | 40(i) | A body of experts has been set up to go into the question. The findings of the body will be communicated to the Estimates Committee in due course. |
| 17 | 55 | The requisite information in respect of Bhakra-Nangal, Hirakud, Chambal, D.V.C., Rihand, Koyna and Nagarjunasagar Projects is given in the note at Annexure VI. |
| 23 | 77 | On the recommendation of the Hirakud Control Board who carefully considered the question of continuance of the construction allowance and free water and electricity to the staff in the Hirakud Dam Project beyond 31/3/54, these allowances have been sanctioned upto 31/3/57 or until such time as the Govt. of India reach a decision regarding the grant of construction allowance and other allowances on all projects in India. The decision of the Govt. of India in the ministry of Finance is still awaited. |

The Board was satisfied that the following conditions which necessitated the grant of this allowance, still prevail in the project area:—

- (i) Lack of ordinary facilities of life.
- (ii) High cost of living.
- (iii) Arduous nature of work.
- (iv) Inaccessible nature of areas.
- (v) Unhealthy climatic conditions.

1	2	3
26	80	The tempo of work on the project increased and with it the work in the Chief Engineer's office. No retrenchment was possible. The sanction to the staff for the Chief Engineer's office was issued on the basis of the recommendation made by the Hirakud Control Board after careful scrutiny. A copy of Ministry of N.R. & S.R. Resolution No. DW-II-12(27) dated the 27th March, 1952 regarding functions of the Hirakud Control Board will be found at Annexure VII.
27&31	90&96	A note explaining the position will be found at Annexure VIII.
32	100	The Administrative control of the project was taken over by the Government of Bombay in June, 1954. The organisational set up of the Kakrapar project, which is in a very advanced stage of construction, is now entirely the responsibility of the State Government.
39	108—109	In respect of D.V.C., this is being done in accordance with the provisions of the D.V.C. Act. In respect of the other multipurpose projects for which Control Boards have been set up, information is incorporated in the Ministry's Annual Report which is circulated to the Members of Parliament and copies of which are placed in the Parliament's Library.
48	118	The cost accounting procedure is already in force at D.V.C. and Hirakud Projects. A cost accounting cell was started at Bhakra early in 1956. There was some delay in the opening of the cell at Bhakra owing to the shortage of experienced accounting personnel. In view of the importance of cost accounting in the execution of the projects, the Ministry of Irrigation and Power without waiting for an assessment of the cost accounting work at Bhakra, asked the state/Project authorities concerned with the execution of the major projects viz, Chambal, Rihand, Koyna, Nagarjunasagar and Kosi to set up cost accounting units on these projects. The present position is that at Chambal, necessary staff has recently been sanctioned by the Chambal Control Board. Further action is being taken.

At Kosi, the accounts organisation is being formed. Rihand, Koyna and Nagarjunasagar Projects are only in their preliminary stages of construction at present ; cost accounting cells are expected to be opened at these projects at the appropriate time. Tungabhadra Project (Board Area) has been substantially completed and it is not considered necessary to introduce cost accounting procedure here, at this stage. The Rates and Costs Committee who were asked to make recommendations on a uniform cost accounting organisation on river valley projects has submitted its report which is now under examination by the Government. Modifications, if any, to the existing arrangements recommended by the Committee will be communicated to the State Project authorities concerned for implementation.

- 59 129 The service has not yet been formed. The matter is under active consideration.
- 60 130 A note giving the required information will be found at Annexure IX.
- 66 136 The recommendation has been brought to the notice of the State Project authorities concerned for implementation.
- 67 137 Necessary direction in the matter has also been issued to the authorities of multi-purpose projects undertaken subsequently. The position is indicated below :—
- | | | |
|--|---|--|
| <ol style="list-style-type: none"> 1. Rihand Dam Project. 2. Chambal Project. 3. Koyna Project. | } | are already following the procedure outlined in this recommendation. |
| <ol style="list-style-type: none"> 4. Nagarjunasagar Project. 5. Kosi Project. | } | have noted this recommendation for compliance. |

T. SIVASANKAR,

Secretary to the Government of India.

ANNEXURE I

Statement showing the posts abolished on the basis of the recommendation of the special Reorganisation Unit regarding the strength in each grade in the Central Water and Power Commission (Water Wing) and the savings in rupees per annum

Serial No.	Designation	No. of posts abolished	Average Cost per mensem	Financial Effect
1	2	3	4	5
(a) POSTS ABOLISHED				
1	Directors	3	1658	—4,974
2	D.D. Ex. Engineers	3	912	—2,376
3	A.D. A.E.E.	11	617	—6,787
4	A. Engineers	17	547	—9,299
5	Project Officer	1	1525	—1,525
6	Secretary	1	1280	—1,280
7	Assistant Secretary	1	617	—617
8	Asstt. Meteorologist	1	522	—522
9	A.C.E.	1	1525	—1,525
10	Asstt. Architect	1	547	—547
11	Supdt. Technical	1	700	—700
12	C.R.O.	1	867	—867
13	A.R.O.	3	475	—1,425
14	Supdt. (Grade II)	1	429	—429
15	Assistant I c.	1	316	—316
16	Assistants	7	286	—2,002
17	Upper Divn. Clerks §	3	145	—435
18	A/C & L.D.C.	10	91	—910
19	Stenographers	12	253	—3,036
20	Supervisor, Estimator	16	236	—3,776
21	Head Draftsman	2	433	—866
22	Sr. Draftsman	8	200	—1,600

1	2	3	4	5
23.	Jr. Draftsman	15	150	—2,250
24.	Tracer	3	104	—312
25.	Technical Asstt./Design Asstt.	11	280	—3,080
26.	Sr. Research Asstt.	2	253	—506
27.	Jr. Research Asstt.	1	253	—253
28.	Observer	4	106	—424
29.	Mason	2	93	—186
30.	Photographer	1	216	—216
31.	Jamadar	3	44	—132
32.	Peon	28	33	—924
33.	Book-binder }	1	58	—58
34.	Warehouseman	1	44	—44
35.	Restorer	2	53	—106
	TOTAL			—54,665

(b) ADDITIONAL POSTS SANCTIONED ON THE BASIS OF THEIR RECOMMENDATIONS

1.	E.A.D. }	4	475	1,900
2.	Adm. Officer	1	912	912
3.	AC C Officer	By grant of Special Pay of Rs. 100 - p.m.	100	100
4.	S.A.S. Acctt.	1	360	360
5.	U.D.C. I.C. }	1	165	165
6.	Stenotypist }	7	111	777
7.	Junior Computer	1	104	104
8.	Daftry	2	44	88
	TOTAL			4,406

(c) SAVING PER MENSEM

	—54,665
	+ 4,406
	—50,259
Saving per annum	12
	—6,03,108

ANNEXURE II

Statement showing the permanent posts for the Library and Information Bureau, in the Central Water and Power Commission

Sl. No.	Designation of the post	Scale of Pay	No. of the posts made permanent w.e.f. 1-4-1946	No. of the posts made permanent w.e.f. 12-1-54	Total No. of posts mentioned in Cols. 4 & 5
1	2	3	4	5	6
1.	Assistant Secretary	Rs. 350—350—380 380—30—590—EB— 30—770—40—850.	3	1	4
2.	Chief Librarian	Rs. 275—25—500— EB—30—650—EB— 30—800	1	..	..
3.	*Librarian	Rs. 160—10—350.	4	1	5
4.	Upper Division Clerk	Rs. 80—5—120—EB— 8—200—10 2—220.	1	2	3
5.	Lower Division Clerk	Rs. 55—3—85—EB— 4—125—5—130.	6	..	6
6.	Statfile Operator	Rs. 100—5—125—6— 155—EB—5—185.	..	1	1
7.	Assistant Statfile Operator	Rs. 60—4—120—EB 5—150.	..	1	1
8.	Gestetner Operator	Rs. 40—2—60.	..	1	1
9.	Restorer	Rs. 40—1—50—2—60.	2	..	2
10.	Book Binder	Rs. 54—2—60—5 2 75.	1	..	1
11.	Warehouseman	Rs. 35—1—50.	1	1	2
12.	Daftry	Rs. 35—1—50.	1	1	2
13.	Peon	Rs. 30—1/2—35.	6	1	7
14.	Farash	Rs. 30—1/2—35.	1	..	1
15.	Sweeper	Rs. 30—1/2—35.	..	1	1

*To be known as Technical Assistant with effect from the date of issue of the letter to which this is an annexure.

ANNEXURE III

Central Water and Power Research Station, Poona

Major Achievements of the Central Water and Power Research Station, Poona, since 1950

INTRODUCTION

The Central Water and Power Research Station, Poona, instituted in 1916, is a pioneer organisation in the field of hydraulic research in India. Until 1937, the Station was under the administrative control of the Bombay State. Many complicated problems baffling the engineering profession such as prevention of a railway bridge on the Ganga from being outflanked, control of sand drawn by the right bank canals taking off from the Sukkur Barrage etc., were solved during the period with the aid of hydraulic models. In 1937 the CWPRS was taken over by the Government of India with due regard to its utility to the country as a whole and the demand for its services from different authorities and projects. The CWPRS now forms a wing of the Central Water and Power Commission, New Delhi.

During its life of nearly forty years the CWPRS has solved over 500 problems, which included measures for protecting railway and road bridges, training and control of rivers, exclusion of sand from irrigation canals, improving the navigability of estuaries and harbours and testing of hydraulic structures like spillways, deep-seated sluices, weirs, canal falls etc. of river valley projects.

The CWPRS was reorganised in 1947 to meet the needs of the various projects which were taken up on India's attaining Independence. Eight divisions were constituted namely, for Hydraulics, Navigation, Mathematics, Physics, Chemistry, Statistics, Soils and Materials for construction and Hydraulic Machinery. The first three divisions are located at Khadakvasla, eleven miles from Poona, as they call for heavy and constant supply of clear water throughout the year.

ACHIEVEMENTS SINCE 1950

Major achievements of the Research Station since 1950 are briefly given below :—

- (1) *Ganga at Mokameh (Bihar).*—The alternative sites for the proposed rail-cum-road bridge over the Ganga at Mokameh Ghat and at Patna with all the aspects of river training and protection works required at each site were studied in the model and recommendations given. This bridge is under construction. (1950-52).
- (2) *Bhadar in Saurashtra.*—The problem of distribution of Bhadar river waters between the Government of Bombay and Saurashtra

was solved by the construction of a weir with divide walls according to the design recommended by the Research Station based on model experiments. This has been very successful and Dholera Port has been brought into use. (1951-52).

- (3) *Ye-U Canal in Burma*.—The Ye-U canal taking off from the barrage across the Mu river in Burma was getting badly silted up every year. At the instance of the Burma Government, model tests were carried out and it was recommended to have the canal head shifted upstream where favourable curvature was available and silting trouble would be avoided. (1950-51).
- (4) *Brahmaputra at Dibrugarh (Assam)*.—The design and location of spurs for the protection of Dibrugarh town from erosion by Brahmaputra were given for actual execution after the model experiments. The spurs constructed before 1955 floods have prevented further erosion of the bank. (1953-55).
- (5) *Kosi Project (Bihar)*.—All aspects of the Kosi Project—the barrage, its design, alignment, protection works, flood embankments, groynes etc., — are being studied on different hydraulic models and project designs are being modified for execution based on the model experiments. Suitability of soil for flood embankments was tested and recommendations given which are being adopted in execution. (1952-55).

Besides these, several investigations for rivers were carried out and advice given with or without model tests.

- (6) *Navigability of the Hooghly at Calcutta*.—The complicated problem of improving the navigability of the Hooghly river has been tackled at the Research Station and one of the recommendations *viz.*, construction of a spur 300 ft. at Akra has been accepted and constructed. The proposal for a ship canal which would cost Rs. 35 crores has been abandoned and training measures as recommended are being adopted. This will save nearly 30 crores. The problem of salinity in the river has been studied and experiment has shown that an upland sweet water to an extent of 15,000 cfs. is necessary to push the salinity down to Cossipore at which it is at optimum. (1950-55).
- (7) *Madras Harbour*.—The Madras Harbour model was constructed and the following recommendations were made as a result of model experiments :—
 - (i) Construction of spending beach and a wall to reduce ship movements ;
 - (ii) Type and location of oil dock for least disturbance; and
 - (iii) Type and construction of wet dock and length to avoid ranging of ships.
- (8) *Cochin Harbour*.—For reducing silting in the Cochin Harbour channel thus minimising the maintenance cost and testing other development works, model studies were done and the construction of the bund from the south-side of the harbour channel

was recommended and proposals have been accepted by the Port Authorities.

- The problems of Mangalore, Kandla and Paradip harbours are under investigation. (1947-53).
- (9) *Ship Testing Tank*.—A small ship testing tank 500 ft. × 12 ft. × 7 ft. deep is constructed at the Research Station. This is being used for testing the models of ships and calibrating current meters. The electrically-driven towing carriage of the tank has been received as a gift from UNESCO.
- (10) *Hydraulic structures of River Valley Projects*.—Testing the design of hydraulic structures such as spillways, weirs, sluices, and their location and protective works, head regulators for the Kakrapara, Kotah, Gandhisagar, Hirakud, Vaitarna and Umtru Projects were made at the Station and designs in many cases were modified on the recommendations made based on the model studies. (1951-55).
- (11) *Geophysical Investigations*.—Exploratory surveys by geophysical methods were done for the various project sites such as Ukai, Mahi, Kakrapara, Watrak, Harnar and Koyna Projects saving considerable amount of time and money. (1951-55).
- (12) *Photoelastic studies*.—Photoelastic studies on the problem of upstream heel clay-stone stratum at the Bhakra Dam and the stress concentration around the galleries of the Bhakra Dam, sluice gate gallery of the Hirakud Dam have been done and report submitted to the authorities to prepare their designs accordingly. (1954-55).
- (13) *Seismic studies*.—Assessment of seismicity of the proposed Kosi dam site was done and report submitted with suitable recommendations. (1951-54).
- (14) *Weathering of the Somnath Temple Stones*.—The problem of prevention of weathering of stones used in the construction of the Somnath Temple in Saurashtra has been solved and recommendations have been made to spray the outside wall either with 5 per cent. silicone solution or 5 per cent. plioletic solution in Xylene. (1954).
- (15) *Earth dams*.—Final designs for the earth dam at Dahod, Palakmati and Bawanganga, which have been taken up for execution in Bhopal State (since merged with M.P.) were made after detailed investigation and laboratory work. Project investigations for an earth dam at Ukai (Bombay State) have been done and report submitted for the preparation of the final design. (1953-55).
- (16) *Concrete Mixes*.—Laboratory investigations were carried out on the availability of aggregates for the major cross-drainage works in Kakrapara Project. The design of concrete mixes for Purna aqueduct was given and arch concreting work executed under laboratory control. (1953-55).

(17) *Foundation studies.*—Foundation investigations for Aroor bridge at Cochin, and a two-berth scheme at Ernakulam and Bhilai Steel Plant were done and recommendations based on the laboratory results were made for preparation of designs. (1953-55).

(18) *Basic studies.*—Basic work on volute siphon and vibration studies with particular reference to Hirebhasgar Siphons (Mysore) has been on hand. (1951-55).

Besides the above, basic research work on canal falls, meandering of channels, studies of waves, air entrainment, engineering properties of soil, design of concrete mixes, hydrology of floods, analysis of rainfall and runoff etc., etc., is being carried out in the Research Station.

Expenditure.—The annual recurring expenditure of the Research Station and the amount for capital works are given below along with the expenditure for deposit and remittance works on behalf of other agencies.

STATEMENT OF EXPENDITURE (1950-1955)

Year	Station Grant 51- B.O.R.	Capital Works 80-A Capital	Deposit and Re- mittance works	Remarks
1950-51	6,25,070	2,18,964	5,80,572	
1951-52	6,66,823	2,72,385	2,77,247	
1952-53	7,63,571	4,21,455	3,55,696	
1953-54	9,15,336	3,04,552	2,65,393	
1954-55	10,84,486	5,36,318	4,86,179	
1955-56	11,99,957	2,16,752	5,57,606	Figures include March I Supple- mentary Account.]

STAFF

Position of gazetted and non-gazetted staff from 1950-51 to 1955-56 is given below:—

Year	Gazetted	Non- Gazetted	Including Tempo- rary Establish- ment.
1950-51	22	156	
1951-52	22	159	
1952-53	25	183	
1953-54	32	204	
1954-55	32	232	
1955-56	29	277	

Since its inception, the Central Water and Power Research Station has successfully solved numerous engineering problems and has laid the foundation for Hydraulic Research in India. The application of results obtained from various model studies has directly saved about 80 crores of rupees to the nation.

Hydraulic models remove the designer's doubts and indecisions and as a result of successful prototype behaviours, an increasing number of problems are being referred to the Research Station for investigation and advice.

As a result of the experience gained over a number of years, the Research Station is now in a position to give advice on hydraulic and navigation problems without conducting model experiments in many cases.

ANNEXURE IV

Statement showing expenditure incurred on T.A. in Flood and Water Wings of the Central Water and Power Commission since 1950-51 to date.

Sl. No.	Periods	Amount	Remarks
(a) WATER WING			
1.	1950-51	1,79,849	
2.	1951-52	1,70,983	
3.	1952-53	1,40,354	
4.	1953-54	1,16,217	
5.	1954-55	*1,76,940	
6.	1955-56	1,99,548	
(b) FLOOD WING			
1.	1950-51 . . . . .	..
2.	1951-52 . . . . .	..
3.	1952-53 . . . . .	..
4.	1953-54 . . . . .	..
5.	1954-55	17,511	(started from 10/54)
6.	1955-56	53,615	

*The increase in T.A. has resulted on account of additional strength sanctioned in Technical Examination Directorate, Engineer's Seminar, Waterways Irrigation and Navigation Directorate, Bhagirath & Plant and Machinery Directorate (Working strength of Gazetted Officers on 1-4-1953, 1-4-54, 1-4-55 & 1-11-55 was 79, 83, 149 and 167 respectively).

ANNEXURE V

Cost of Generation in the Power Stations Commissioned during the First Five Year Plan

Name of Power Station	Cost per kwh in As.
<i>Hydro</i>	
1. Radhanagri (Bombay)	1.56*
2. Sindh H. E. Project (Jammu & Kashmir)	0.80*
3. Moyar (Madras)	0.44*
4. Nangal (Punjab)	0.366*
5. Mohanmadpur H. E. Station (U.P.)	0.415
6. Pathri H. E. Station (U.P.)	0.375
7. Khatima H. E. Station (U.P.)	0.672
8. Sengulam (Travancore-Cochin)	0.18
9. Poringulkuthu (left bank) (Travancore-Cochin)	0.255
10. Machkund (Andhra)	0.432
<i>Thermal</i>	
11. Madurai (Madras)	1.33*
12. Bokaro (DVC)	$\left\{ \begin{array}{l} 0.376^* \text{ (3 units)} \\ 0.349^* \text{ (units)} \end{array} \right.$
13. Vtran (Bombay)	1.2*
14. Chola (Bombay) (II extension)	0.546*
15. Khaperkheda (Madhya Pradesh)	0.767*
16. Ballarpur (Madhya Pradesh)	0.55*
17. Raipur (Madhya Pradesh)	2.372*
18. Chandri (Madhya Pradesh)	1.59*
19. Basin Bridge Extension (Madras).	1.76 (Incl. distribution costs)
20. Kanpur (U.P.)	0.72
21. New Cossipur Extension (Calcutta Electric & Co.)	0.495
22. Sabaarmati Extension (Ahmedabad E. S. Co.)	0.62
23. Delhi State Electricity Board (New Extensions)	0.85

Cost of generation in some older power stations.

1. Pykara (Hydro)	0.14*
2. Papanasam ("")	0.31*

Items shown in asterisk refer to the figures furnished by the State Governments.

Estimated cost of Generation in Hydro Electric Projects

Name of the Scheme	Cost per Kwh generated in As./-
<i>Schemes taken up in the First Five Year Plan.</i>	
1. Chambal	0.28 (I Stage)
2. Konya	0.29 (I Stage)
3. Hirakud	0.318 (I Stage) 0.25 (Ultimate)
4. Bhakra-Nangal	0.71 (I Stage) 0.2 (Ultimate)
5. Damodar Valley Corporation	0.364
6. Neriamangalam	0.22
<i>Schemes included in the Second Five Year Plan.</i>	
1. Panniar	0.25
2. Sholayar	0.19
3. Pamba	0.20
4. Kundah	0.425
5. Sharavati Valley	0.11 (Ultimate) 0.26 (I Stage)
6. Yamuna	0.26

Items shown in asteriks refer to the figures furnished by the State Governments.

ANNEXURE VI

v. Bhakra Nangal Project.

The financial returns expected from the irrigation and power portion of the project, as a whole and State-wise is given below :—

(A) IRRIGATION PORTION

1955 Project				
Particulars	Set I	Set II	Set III	
1	2	3	4	
(A) Project as a Whole				
Year when the Project becomes productive	1969-70	1971-72	1970-71	
Percentage return	4.25	1.95	4.38	
(B) Punjab Portion of the project				
Year when the Project becomes productive	1969-70	1971-72	1969-70	
Percentage return	4.45	2.10	4.29	
(C) Pepsu Portion of the Project				
Year when the Project becomes productive	1967-68	1972-73	1967-68	
Percentage return	4.73	2.18	4.36	
(D) Rajasthan Portion of the Project.				
Year when the Project becomes productive	1971-72	1971-72	1971-72	
Percentage return	2.79	1.56	3.27	

Set I.—This has been prepared by reducing the sum-at-charge below capital outlay by using the Betterment fee.

Set II.—In this, the sum-at-charge has not been reduced below the capital outlay. Betterment fee has been utilised towards payment of arrears of interest charges during and after the construction.

Set III.—In this, credit has been taken as an indirect receipt for the income on the unaccounted Betterment fee at the rate of 5% interest. The capital cost of the Project has not been lowered.

(B) ELECTRICAL PORTION*Percentage Returns*

Year	Common Pool	Punjab State	Pepsu	Rajasthan	Project as a whole
1	2	3	4	5	6
Upto					
31-3-51	..	..	..	..	..
1951-52	..	..	..	..	..
1952-53	..	..	..	..	..
1953-54	..	..	..	..	..
1954-55	(-) 0.34	(-) 0.33	(-) 0.30	(-) 0.34	(-) 0.33
1955-56	(-) 0.26	(-) 0.34	(-) 0.33	(-) 0.24	(-) 0.32
1956-57	1.79	1.49	0.99	1.24	1.33
1957-58	2.47	2.12	1.45	0.87	1.71
1958-59	2.15	1.81	1.20	0.59	1.43
1959-60	2.21	1.89	1.30	0.73	1.53
1960-61	3.99	3.54	2.73	1.97	3.05
1961-62	6.44	5.78	4.60	3.51	5.06
1962-63	6.94	6.19	4.87	3.70	5.38
1963-64	7.25	6.58	5.11	3.85	5.67
1964-65	7.50	6.89	5.37	4.00	5.99
1965-66	7.60	6.99	5.55	4.02	6.23
1966-67	7.60	6.99	5.64	4.0	6.29
1967-68	7.60	6.99	5.74	4.0	6.29
1968-69	7.60	6.99	5.86	4.10	6.29
1969-70	7.60	6.99	5.86	4.10	6.29
1970-71	7.60	6.99	5.86	4.11	6.29
1971-72	7.60	6.99	5.86	4.12	6.29
1972-73	7.60	6.99	5.86	4.12	6.29
1973-74	7.60	6.99	5.86	4.12	6.29

2. Hirakud Project:

The return from the Hirakud Dam Project (Stage I) is 4.90% in 1966-67 *i.e.*, 10 years after the commencement of benefits.

3. Chambal Project

Percentage return and relevant financial forecast pertaining to the Chambal Project, as a whole, are attached. At present only Stage I of the Project is being executed by the States of Madhya Pradesh and Rajasthan.

Return of over 4% on investment is expected in the year 1968-69 and of higher percentage after completion of the final stage of the Scheme.

CHAMBAL VALLEY DEVELOPMENT

Table 4 showing Financial Forecast

Year	Direct Capital outlay during the year (Lakhs of rupees)	Direct cumulative outlay to the end of year	Interest during the year (@4½% on sums @ charge on account of direct charges only 1/2 the direct capital outlay during the year)	Cumulative interest to the end of the year	Net Revenue during the year from water rates enhanced land Revenue and Power	Betterment fee	Total cols. 6 & 7	Cumulative Revenue	Sum at charge	Rate of interest
1	2	3	4	5	6	7	8	9	10	11
53-54	190	190	4.04	4.04	..	..	..	..	194.04	..
54-55	342	532	15.51	19.55	..	..	..	..	551.55	..
55-56	648	1,180	37.21	56.76	..	..	..	..	1236.76	..
56-57	892	2,072	71.21	128.28	..	..	..	..	2200.28	..
57-58	1,008	3,080	114.93	243.21	..	..	..	..	3323.21	..
58-59	889	3,969	160.15	403.36	76.94	..	76.94	76.94	4295.42	1.79

	1	2	3	4	5	6	7	8	9	10	11
59-60	.	500	4,469	193.17	596.53	102.99	..	102.99	179.93	4885.60	2:18
60-61	.	260	4,729	213.16	809.69	125.62	9.73	135.35	315.28	5223.41	2:40
61-62	.	243	4,972	227.16	1036.85	157.34	25.75	183.09	498.37	5510.48	2:85
62-63	.	109	5,081	236.51	1273.36	179.14	51.08	230.22	728.59	5625.77	3:18
63-64	.	60	5,141	246.37	1513.73	189.18	70.53	259.71	988.30	5666.43	3:33
64-65	.	28	5,169	241.42	1755.15	199.18	87.56	286.74	1274.04	5650.11	3:52
65-66	.	..	5,169	240.13	1995.28	204.13	102.13	306.26	1580.30	5583.98	3:65
66-67	.	..	5,169	237.32	2232.60	209.42	114.31	323.73	1904.03	5497.57	3:81
67-68	.	..	5,169	233.64	2466.24	214.72	125.04	338.76	2242.79	5392.49	3:97
68-69	.	..	5,169	226.18	2692.42	220.02	137.36	351.38	2594.17	5267.25	4:17
69-70	.	..	5,169	223.86	2916.28	220.02	137.94	357.26	2951.42	5133.85	4:28
70-71	.	..	5,169	218.18	3134.46	220.02	140.69	360.71	3312.15	4991.32	4:41
71-72	.	..	5,169	212.13	3346.59	220.02	112.51	332.53	3614.67	4870.90	4:52
72-73	.	..	5,169	207.02	3553.61	220.02	90.61	310.63	3955.30	4767.31	4:62
73-74	.	..	5,169	202.61	3756.22	220.02	68.71	288.73	4244.03	4681.19	4:70
74-75	.	..	5,169	198.94	3955.16	220.02	54.16	274.18	4518.21	4605.95	4:78
75-76	.	..	5,169	195.75	4150.91	220.02	39.53	259.55	4777.76	4542.15	4:85
76-77	.	..	5,169	193.04	4343.95	220.02	24.98	245.00	5022.76	4490.19	4:90
77-78	.	..	5,169	190.83	4534.78	220.02	17.63	237.65	5060.41	4443.37	4:95
78-79	.	..	5,169	188.84	4730.62	220.02	10.35	230.37	5490.78	4401.84	5:00
79-80	.	..	5,169	187.08	4910.69	220.02	3.00	223.02	5713.80	4365.49	5:04
80-81	.	..	5,169	185.54	5096.23	220.02	..	220.00	5933.82	4331.41	5:07

4. D. V. C. Projects

The percentage of return accounts to the latest financial analysis as determined by the *Ad hoc* Committee is as below :—

(i) Approved Projects	2·83
(ii) Approved Projects with Bokaro 4th Set and Konar Hydro	3·60

5. Rihand Project

The revised estimated capital investment over the Rihand project would be Rs. 45·26 crores. The Project is expected to be completed by 1960-61 and the percentage return then expected is about 1·5. The maximum percentage return of above 5·6 is expected to be reached in 1982-83.

6. Nagarjunasagar Project

According to the latest Project report the percentage return from the first phase of the Project works out to a maximum of 2·76. On the completion of the second phase, the return works out to 5·63% including power and 4·23%, if power is not included.

7. Koyna Project

The percentage return as worked in March 1955 is 5·82. This figure is based on the assumption that the capital cost of the Project would be 33·22 crores. The estimates of the Koyna Project are at present under revision.

8. Kosi Project

Information still awaited from the State Government and will be supplied on receipt.

ANNEXURE VII

GOVERNMENT OF INDIA MINISTRY OF NATURAL RESOURCES & SCIENTIFIC RESEARCH

RESOLUTION

New Delhi, the 27th March, 1952

No. DW-II-12(27)—As a result of discussions between the Central Government and the Government of Orissa, it has been decided to set up a Hirakud Control Board and a Hirakud Development Board to ensure efficient, economical and early execution of the Hirakud Dam Project. The terms of the agreement arrived at between the Central Government and the Government of Orissa are set out below:—

Constitution and functions of the Hirakud Control Board and Hirakud Development Board.

With a view to ensuring efficient, economical and early execution of the Hirakud Dam Project, the Central Government with the consent of the Government of Orissa have decided to establish a Hirakud Control Board and a Hirakud Development Board as described below. The Control Board will be in overall charge of the Project including its technical and financial aspects under the general supervision of the Government of India in the Ministry of Natural Resources and Scientific Research. For this purpose Government of India will act as the agents of the Orissa Government at the request of that Government. The actual work of construction will be carried out by the Chief Engineer, Hirakud Dam Project, who will be a full time officer.

2. Powers will be delegated to the Chief Engineer, Hirakud Dam Project, to contract for works, supplies and services at the direction of the Control Board; such contracts to be executed as on behalf of the Government of India.

3. The Hirakud Control Board will consist of the

- (i) Hon'ble the Chief Minister of Orissa . . . Chairman.
- (ii) Secretary, Ministry of Irrigation & Power . . . Vice Chairman.
- (iii) A representative of the Ministry of Finance, Government of India.
- (iv) The Finance Secretary to the Government of Orissa.
- (v) The Chief Engineer, Hirakud Dam Project.
- (vi) The Member Board of Revenue, Orissa, Sambalpur.
- (vii) Chairman, CW & PC, New Delhi.

The Board will be assisted by a whole-time Secretary (an Officer, preferably of the rank of Superintending Engineer) and such other staff as may be necessary with headquarters at Hirakud till otherwise decided by the Board.

The Financial Adviser attached to Hirakud Dam Project, and the Secretary to the Government of Orissa, River Valley Development Department will ordinarily be invited to attend meetings of the Board.

The Chief Engineer of the Government of Orissa, concerned with any part of the Project will also be invited to attend as Adviser when matters relating to his part of the Project are under consideration of the Control Board.

4. In particular and without prejudice to the generality of the provision in paragraph 1 above the Hirakud Control Board shall :—

- (i) scrutinise the estimates of the Project prepared by the Chief Engineer, Hirakud Dam Project advise necessary modifications and recommend the estimate for administrative approval of the Government of Orissa;
- (ii) examine and approve from time to time the delegation of such powers both technical and financial, as it may deem necessary for the efficient execution of the Project to the Chief Engineer, Superintending Engineer, Executive Engineers and Sub-Divisional Officers engaged in the execution of the Project;
- (iii) examine and where necessary, lay down specifications and schedule of rates for various classes of work with a view to sound and efficient execution of the Project;
- (iv) approve all sub-estimates and contracts, the cost of which exceeds the powers of sanction of the Chief Engineer;
- (v) approve all proposals for award of work or supplies on contract other than those based on public tenders and on detailed quantitative estimates and works allotted on work order basis on schedule rates.

NOTE.—(1) Where total financial liability under a contract is definitely ascertainable at the time of placing the contract and where the contract itself is the result of a public or limited call for tenders, prior submission of the proposals to the Control Board will not be necessary so long as the contract is otherwise within the powers of sanction of the Chief Engineer.

PARA (2). This will not affect the powers delegated from time to time to the Chief Engineer, Superintending Engineers, Executive Engineers and Sub-Divisional Officers.

- (vi) frame rules as to delegation of powers and procedures for the purpose of carrying out its business;
- (vii) decide the programme of construction of different parts of the project keeping in view the funds available, the economics of the project, and the desirability of obtaining quick results;
- (viii) decide on the stage development of water power, and the withdrawals of water from the reservoir during the construction period for irrigation and power purposes with a view to securing best use of water available;
- (ix) scrutinise the estimates and accounts of reclamation and the expenditure incurred in resettlement and rehousing of the dispossessed persons including land acquisition and connected charges ;

- (x) receive monthly progress reports both as to works and expenditure in a prescribed form from the Chief Engineer, review the progress of different units of the project and lay down steps to be taken to expedite the work.

5. With the formation of the Control Board, the existing contract Board will cease to function.

6. The Hirakud Control Board will be assisted by a Development Board which will have the following constitution :—

- (i) The Member, Board of Revenue, Sambalpur, Orissa. . . . Chairman.
- (ii) The Director of Agriculture, Orissa.
- (iii) The Director of Industries, Orissa.
- (iv) Secretary to the Government of Orissa, River Valley Development Department.
- (v) Chief Engineer, Hirakud Dam Project.
- (vi) Chief Engineer, Electricity, Orissa.
- (vii) The Financial Adviser, Hirakud Dam Project.

With the formation of the Development Board now proposed, the existing Board will cease to function.

Functions of the Development Board.

The Development Board will be responsible for the development aspect of the Project. *e. g.*, Irrigation, Agriculture, Power Distribution, and Load Development, Industries and Community Benefits.

7. The meetings of the Control Board and the Development Board shall ordinarily be held once every two months.

ORDER : Ordered that this Resolution be communicated to the State Government of Orissa, the several Ministries of the Government of India, the Comptroller and Auditor General of India, Prime Minister's Secretariat, Secretary to the President and the Planning Commission.

Ordered also that the Resolution be published in the Gazette of India and that the State Government be requested to publish it in the State Gazette, for general information.

Sd - (A. N. KHOSLA)

*Additional Secretary to the Government
of India.*

Copy forwarded to the Manager, Government of India Press, New Delhi, with the request that the Resolution may be published in the Gazette of India, Part I, Section I.

Copy also forwarded for information to the :—

1. Ministry of Finance (Shri Ratnam) with five spare copies.
2. Planning Commission (Shri Krishnamachari) with two spare copies.
3. Central Water & Power Commission—with ten spare copies.

4. Chief Engineer, Hirakud Dam Project (Shri Kanwar Sain)—with ten spare copies.

- *With 1 spare copy each
- *5. Comptroller & Auditor General of India, New Delhi.
 - *6. Accountant General, Central Revenues, New Delhi.
 - *7. Financial Adviser & Chief Accounts Officer Hirakud.
 - *8. Accountant General, Orissa.

Sd/- (S. VENKATARAMAN)
Under Secretary to the Government of India.

ANNEXURE VIII

(Note referred to in Column 7 of the statement relating to Recommendations 27 and 31—Para 90 & 96).

The Damodar Valley Corporation Committee had recommended the setting up of semi-autonomous bodies for executing multi-purpose river valley projects efficiently and economically. The Government of India had also under consideration, at that time, a proposal for constituting a statutory authority for the execution and maintenance after completion of the Bhakra Nangal Project. The question of a permanent set-up for the administration of the project was discussed in detail at an inter-State meeting which was held on the 20th May, 1954, and which was attended by representatives of the Central Government and of the Governments of Punjab, Pepsu, Rajasthan and Himachal Pradesh. It was decided at the meeting that the existing arrangement under which construction work on the project was proceeding under the overall control of the Bhakra Control Board should continue. This arrangement, which was comparatively inexpensive, was working satisfactorily and ensured maintenance of smooth and harmonious relations with the State Governments. The Bhakra Project had available to it the entire technical manpower of the State on a priority basis. Constitution of a statutory authority or a semi-autonomous corporation at the stage of construction would upset this position and create administrative difficulties. The corporation or the authority must have trained staff and this staff would have to be obtained on foreign service terms which would add to the cost of the project. It was also doubtful whether they would, due to the acute shortage of experienced technical personnel, get the best men. On these considerations, the meeting came to the conclusion that the existing arrangement for the construction of the project should not be disturbed.

As regards maintenance and distribution of water and power, research, etc. after completion of the project, the representatives of Rajasthan, Pepsu and Himachal Pradesh favoured the establishment of a Statutory Board or authority with a nominee of the Centre as Chairman. The Punjab Government did not, however, subscribe to this view. The Irrigation and Power Minister, Punjab explained at length that maintenance could best be done in this case by the Government of Punjab as they had vast experience of irrigation works. For example, on the Sutlej Valley Canal, the Punjab was responsible for distributing supplies of water among Punjab, Bikaner and Bhawalpur (Pakistan). Similarly at Tajewala, Punjab was distributing the supplies of Yamuna River between Eastern Yamuna canal, which irrigates portions of U. P., and Western Yamuna Canal which served portions of Punjab. A corporation or statutory authority might not see eye to eye on many problems such as water rates, betterment fee, etc. Further, the Government of Punjab had a large stake in the project (with the integration of Punjab and Pepsu the stake has increased further) and were vitally interested in development works such as check dams, soil conservation, etc. In the circumstances explained above, the matter was not pursued further.

ANNEXURE IX

Training

A scheme for the training of 30 fresh engineering graduates for a period of one year and 15 serving engineers from the State Governments for 6 months in the methods of designs and construction of dams and large power plants was sanctioned for a period of 2 years from 1954. The training course for fresh engineering graduates was started in 1954 and although 30 graduates from among the nominees of the various State Governments were selected for training, only 11 candidates actually completed the course. The others left the training in the middle. In order to make the scheme more attractive and to ensure that the trainees do not leave the course before completion the State Governments were requested to sponsor their candidates to whom they should offer a guarantee of long-term appointment after completion of the training. On this basis 16 candidates were sponsored initially by the State Governments for the second course out of which 7 nominations were subsequently withdrawn. Out of the 9 candidates to whom orders were issued only 7 joined. Out of these 7, two Officers were subsequently treated to have joined the scheme for serving engineers at the instance of the State Governments concerned with the result that there are at present only 5 candidates undergoing training in the second course.

Training of Serving Engineers.

Scheme for the training of serving engineers was started in early 1955. Out of the 12 engineers nominated by the State Governments, only 7 joined and completed the training. For the second course, nominations were received from the State Governments, in respect of 9 Engineers (including two candidates who were earlier treated as fresh graduates) and placement orders were issued. These 9 candidates are now undergoing training.

Training of Operators and Mechanics.

In pursuance of a recommendation made by the Construction Plant and Machinery Committee, Government have set up two Technical Training Centres for giving training to operators and mechanics in the proper handling and maintenance of heavy earth moving machinery in use at the various river valley projects. The first training Centre was established at Kotah (Chambal Project) on 1-11-55 and the other at Nagarjuna Sagar Project (Andhra Pradesh) on 30-6-1956. Each training centre can provide training facilities for 40 candidates at a time. The training course is for a period of one year during which stipend of Rs. 100 - per mens m is payable to each trainee. Twenty-six candidates are now undergoing training in Kotah centre and 32 candidates at the Nagarjuna Sagar Centre.

Central Engineering and Technical Institute.

The proposal for starting a Central Research Institute was merged with another scheme for the setting up of an Asian Training Centre for imparting training in Water Resources Development. This Training Centre was inaugurated by the Prime Minister on the 25th November, 1955. This centre is attached to the Roorkee University and can give training to 50 trainees at a time in Water Resources Development including the basic principles and details of planning, investigation, design, construction, maintenance and operation of multi-purpose river basin development projects and their technical, financial and human aspects. Qualified serving engineers of Asian and African countries are eligible for admission to this training centre. The duration of the course is from 9 months to one year.

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