

**ESTIMATES COMMITTEE
(1963-64)**

FIFTY-FIRST REPORT

(THIRD LOK SABHA)

**MINISTRY OF STEEL, MINES AND HEAVY
ENGINEERING**

(Department of Heavy Engineering)

1144

HEAVY ENGINEERING CORPORATION LTD., RANCHI



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**LOK SABHA SECRETARIAT
NEW DELHI**

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CORRIGENDA

**Fifty-First Report of the Estimates Committee
(Third Lok Sabha) on the Ministry of Steel,
Mines and Heavy Engineering – Heavy Engi-
neering Corporation Ltd., Ranchi.**

Page 12, para 27, marginal heading, lines 7 & 8, for
'Mintisay' and 'Water' read 'Ministry and 'Watch'.

Page 21, para 50, line 3, for '15-30%' read '15-3%'

Page 22, para 55, marginal heading, for 'recommndation'
read 'recommendation'

Page 24, para 58, marginal heading, for 'nventory'
read 'Inventory'.

Page 25, para 62, marginal heading, for 'soi' read
'Soil'

Page 28, para 71, marginal heading, for 'Sugestions'
read 'Suggestions'

Page 44, para 111, marginal heading, for 'gineering'
read 'Engineering'

Page 52, para 125, marginal heading, for 'Dmand'
read 'Demand'

Page 103, Sl. No. 29, line 4, delete 'the' occurring
after the word 'to'

Page 106, Sl. No. 32, line 3, for 'Case' read 'Cases'

P. T. O.

Page 106, Sl. No. 35, line 3, for 'advanced' read
'advances'

Page 106, Sl. No. 36, line 7, for 'are' read 'is'

Page 107, Sl. No. 37, line 1, for 'or' read 'of'

Page 109, Sl. No. 44, line 5, for 'cost' read 'case'

Page 109, Sl. No. 45, line 7, delete 'a' occurring
after the word 'while'.

Page 115, Sl. No. 60, line 1, for 'yet' read 'not'

Page 119, Sl. No. 73(vii), line 4, for 'dependence'
read 'dependance'

Page 126, para IA, line 2, after the figure '77'
add '78'.

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Abbreviations used in the Report

HMBP	—	Heavy Machine Building Project
FFP	—	Foundry Forge Project
CMMP	—	Coal Mining Machinery Project
HMTP	—	Heavy Machine Tools Project

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(1963-64)

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*Elected w.e.f. 16th August, 1963 vice Dr. K. L. Rao ceased to be a member of the Committee on his appointment as a Minister.

INTRODUCTION

I, the Chairman, Estimates Committee, having been authorised by the Committee to submit the Report on their behalf, present this Fifty-First Report on the Ministry of Steel, Mines and Heavy Engineering—Heavy Engineering Corporation Ltd., Ranchi.

2. The estimates relating to the Ministry of Steel, Mines and Heavy Engineering—Heavy Engineering Corporation Ltd., Ranchi were examined in detail by the Sub-Committee of the Estimates Committee on Public Undertakings which took the evidence of the representatives of the Heavy Engineering Corporation from the 20th to the 24th December, 1963 and of the representatives of the Ministry of Steel, Mines and Heavy Engineering on the 26th and 27th December, 1963. The Report was approved by the whole Committee on the 25th March, 1964.

3. A statement showing an analysis of the recommendations contained in this Report is also appended (Appendix VI).

4. The Committee wish to express their thanks to the officers of the Ministry of Steel, Mines and Heavy Engineering and the Heavy Engineering Corporation Ltd for placing before them the material and information that they wanted in connection with the examination of the estimates. They also wish to thank to Shri Jehangir Ghandy, for his valuable Memorandum and Shri Biren Mukerjee, Chairman, Indian Iron and Steel Co. Ltd., Burnpur for giving evidence and making valuable suggestions to the Committee.

NEW DELHI;
March 31, 1964.
Chaitra 11, 1886 (S).

ARUN CHANDRA GUHA,
Chairman,
Estimates Committee.

I INTRODUCTORY

A. Importance

“BUILD MACHINES, BUILD INDIA” is not a mere slogan but a statement which aptly highlights the fundamental importance of heavy engineering industry in the economic and industrial development of the country. The heavy engineering industry—a basic industry—is the very life-blood of the industrial and defence apparatus of a nation. Unlike other industries, it does not produce definite end products but it is the producer of a wide range of ‘mother machines’ i.e., heavy machinery and equipment needed for setting up of major industries such as iron and steel, cement, fertilisers, chemicals, coal mining, etc. Till now, India has been depending mainly on imports for her requirements of heavy machinery and equipment, resulting in a heavy drain on her foreign exchange resources as well as a continued dependence on foreign sources for supply. It is only with the establishment of such an industry that a country can look forward with confidence to a bright future for an assured and accelerated growth of its industrial sector.

B. Setting up of the Plants

2. The question of setting up of a heavy engineering industry has been under consideration of the Government of India since 1955. The original idea was to set up only heavy foundries, forges and structural shops in different parts of the country. Highest priority was assigned to the development of these plants in the Second Five Year Plan. The following tentative targets of production were envisaged for foundry and forge shops by 1960-61:—

Earlier Proposal.

Steel Castings	..	15,000 tons
Forgings	..	12,000 tons
Grey Iron Castings	..	10,000 tons

3. Pursuant to the recommendation of an advisory committee appointed at the end of 1955, global tenders were invited by Government for setting up a Foundry Forge Plant (having an annual capacity of 25,000 tons of grey iron castings, 15,000 tons of steel castings and 5,000 tons of forgings), to serve the needs of private sector units licensed to manufacture machinery for sugar, jute and cement industries etc. About the same time negotiations were also started by Government with foreign firms for setting up a Heavy Machine Tools Plant. Preliminary offers for this as well as for the Foundry Forge Plant were received towards the end of 1956.

Foreign Missions.

4. In the meantime, a team of experts from the USSR and another Mission from the UK had been invited by the Government to advise them on the establishment of heavy engineering capacity in the country. In January/February, 1957, they recommended the establishment of the following units:—

Item	U.S.S.R. Team's recommendations	U. K. Mission's recommendations*
1. For making machinery required by steel plants and other heavy industries.	An integrated Heavy Machine Building Plant of 80,000 tons capacity per annum, capable of expansion upto 1,65,000 tons, after achievement of previous capacity.	(i) A Heavy Structural Fabricating Works (18/20,000 tons capacity per annum). (ii) A Heavy Plate & Vessel Fabricating Works (18/20,000 tons capacity per annum). (iii) Heavy machine shops (capacity not indicated). (iv) A Medium/Heavy Machine Tools Works (4,500 tons capacity per annum).
2. For making coal mining machinery.	A Coal Mining Machinery Plant of 30,000 tons capacity per annum.	A Coal Mining Machinery Plant (capacity not indicated).

Jehangir Ghandy Committee.

5. The Government of India appointed a Committee under the Chairmanship of Shri Jahangir Ghandy, Director, Tata Industries (P) Ltd., to examine the proposals of the U.S.S.R. Team and the U.K. Mission and advise them on the most suitable plan for the establishment of heavy engineering industry. That Committee reported in March, 1957 and was of the opinion that the proposals of the U.K. Mission were preferable to those of the Soviet Team.

Government decision.

6. Ultimately at the end of 1957, Government decided to set up the following plants, on the lines suggested by U.S.S.R. Team:—

- (i) a Heavy Machine Building Plant of 80,000 tons capacity, starting with 45,000 tons in the first stage; and
- (ii) a Coal Mining Machinery Plant of 30,000 tons capacity.

Original Concept of Foundry Forge Plant changed.

7. For Heavy Machine Building Plant, the Soviet Team recommended a captive foundry forge. In January, 1958, Government accepted the Czech. offer of 1956 for setting up of a Foundry Forge Plant and decided to tie it up with

*At the time of factual verification, it has been stated that the capacities indicated for the Heavy Structural Shop and Heavy Plate & Vessel Shop are on the basis of double-shift working whereas the medium/Heavy Machine Tool Shop is on the basis of single-shift working.

the Machine Building Plant. Since the original Czech offer was for castings equivalent to 23,000 tons of machinery only, it was decided to expand it to 45,000 tons capacity to match it with the Heavy Machine Building Plant. This has now been further revised to 80,000 tons. The 23,000 tons stage came to be called the First Stage and 45,000 tons one as the Second Stage.

8. As stated in para 3, preliminary offers for Heavy Machine Tools Plant were received by Government in 1956. It was stated that these were not pursued due to foreign exchange difficulty. Subsequently, this plant was, among others, included to be financed under the Czech credit of Rs. 23.1 crores which was extended to the Government of India in November, 1959. It was, however, in November, 1960 that Government decided to set up this plant for manufacturing diverse items of heavy machine tools starting with 10,000 tons per annum in the First Stage to be ultimately expanded to 20,000 tons in the Second Stage.

Decision to set up H.M.T. Plant taken in 1960.

9. *It is regrettable that though Government thought of setting up plants for heavy engineering industry as early as 1955, it took them three to five years to arrive at the decision. The urgency for the plants does not appear to have been fully realised and much precious time had been lost in the preliminaries. The Committee cannot help deprecating the delay in the development of heavy engineering industry in the country, which was rightly assigned the highest priority with tentative targets in the Second Plan.*

Committee's observation.

C. Formation of the Corporation

10. The Heavy Engineering Corporation Ltd., Ranchi (hereinafter called the Corporation) was formed on the 31st December, 1958, under the Companies Act, 1956 with an authorised capital of Rs. 50 crores, to execute the following projects:—

- (i) Heavy Machine Building Project, Ranchi (H.M.B.P.)
- (ii) Foundry Forge Project, Ranchi (FFP)
- (iii) Coal Mining Machinery Pdoject, Durgapur (CMMP).

Subsequently, in November 1960, the Corporation was entrusted by Government with the execution of the Heavy Machine Tools Project (HMTP). In March 1963, it was also entrusted with development of a second coal mining machinery project and the coal preparation plants and washeries.

11. The first three projects were actually transferred by Government to the Corporation in May, 1959, i.e. a year and a half after the decision to set up the projects was taken. Till then the preliminary investigations were carried on by Government and the National Industrial Development Corporation. Agreements for detailed projects reports, consultancy etc. were entered into with the Consultants. It was explained to the Committee that under the present arrangement initial investigation of industrial projects was being done by National Industrial Development Corporation pending the ultimate implementation by other approved agencies. *The Committee are not happy over this arrangement and consider that the agency through which the projects are to be executed should be decided well in advance and entrusted with the task from the very beginning. A different agency like the National Industrial Development Corporation processing the work relating to negotiations, agreements etc. may not give the same urgency as the agency which takes it over may have given. In all such cases the proper course would appear to be to entrust the projects to an executing agency. In this case, this could have been done in December, 1957 rather than waiting till May, 1959 i.e. a year and a half later.*

II

COMPLETION OF PROJECTS AND PRODUCTION PROGRAMMES

12. According to the brochure "The Appraisal and Prospects of the Second Five Year Plan (1958)", the three projects *viz.* Foundry Forge Project, Heavy Machine Building Project and Coal Mining Machinery Project were expected to be completed during the early years of the Third Plan. The Heavy Machine Tools Project was expected to go into production by 1965-66 as indicated in the Third Five Year Plan. Targetted dates of completion.

A. Time taken in finalising Plans of Projects

13. The table below shows the time taken in the finalisation of the detailed project report (D.P.R.) in respect of each project:—

Project	Date of Contract	Receipt of DPR		Acceptance of DPR by Govt.	
		According to contract	Actual date of receipt	According to contract	Actual date of acceptance
(i) H.M.B.P.	Dec., 1957	April, 1959	June, 1959	Aug., 1959	Nov., 1959
(ii) C.M.M.P.	Dec., 1957	Feb., 1959	April, 1959	June, 1959	Aug., 1959
(iii) F.F.P.	Aug., 1958	Oct., 1959	Nov., 1959	Not indicated	April, 1960
(iv) H.M.T.P.	May, 1961	Dec., 1961	April, 1962	Do.	May, 1963

14. It will be seen that there has been delay in the receipt as well as finalisation of detailed project reports in respect of all the projects. The longest time has been taken in the case of H.M.T.P. These delays have been attributed to the collection of initial data, preparation of reports by consultants etc. *The Committee feel that the time taken at the various stages of finalising the project reports, has been rather long as has been admitted by the representative of the Ministry. Since these initial delays affect the commissioning of the projects and the achievement of production targets, set forth in the Plan, it would be desirable if a review of the processes involved in the collection of data, preparation and finalisation of detailed project reports and the time taken therein is made by Government with a view to reduce this time lag to the minimum in future projects.*

B. Revision of Capacities

15. In April, 1960, Government decided to revise the capacities of the CMMP, HMBP and FFP as follows:—

Project	Original Capacity	Revised Capacity
1. C.M.M.P.	30,000 tons (called 1st stage)	45,000 tons (called second stage)
2. H.M.B.P.	45,000 tons (called 1st stage)	80,000 tons (called second stage)
3. F.F.P.*	45,000 tons (called Second Stage)*	80,000 tons (called third stage)

* The capacity of FFP had once been revised already in January, 1958 from 23,000 tons to 45,000 tons to match it with HMBP.

Reasons for revisions.

16. It has been stated that the capacities of HMBP and CMMP were revised in the context of requirements of machinery for iron and steel and coal mining industries in the Fourth Plan period. It is also stated that in the case of HMBP, it was first intended to proceed gradually as the technique was new but later on it was thought that both the stages could be executed simultaneously. The difficulty of foreign credit is also stated to have been a limiting factor in both the cases. As regards F.F.P. its capacity has been revised to 80,000 tons as to be in step with HMBP.

Views of Consultants.

17. In their Report (1957) the USSR Team had suggested that further development of HMBP to a capacity higher than 80,000 tons should be undertaken after achievement of the previous capacities. As regards CMMP, they did not consider it advisable to set up this project above 30,000 tons capacity due to difficulty in producing wide range of items and long time required to master the techniques. It has, however, been stated during evidence that the Soviet experts had subsequently agreed to expansion of CMMP to 45,000 tons capacity and that the increase has mainly been in the number of items already planned.

Effect of Revisions.

18. The Committee enquired whether there had been any delay in the commissioning of the projects and any extra expenditure consequent on such revisions. Both the representatives of the Corporation and the Ministry replied in the negative.

19. Brief particulars of the changes which had to be made on account of the revisions of capacities are given below, project-wise:—

(1) C.M.M.P.

(a) The original detailed project report for a capacity of 30,000 tons was finalised in August, 1959. A revised de-

tailed project report to cover 45,000 tons stage was called for in December, 1960. It was received in August, 1961 and accepted by Government in July, 1962, i.e. 3 years after acceptance of original project report in August, 1959.

(b) Contract for working drawings for production and ancillary shops was entered into in February, 1960 for 30,000 tons stage. These drawings were asked to be modified in December, 1960 to cover the 45,000 tons stage.

The additional expenditure on (a) and (b) above has been Rs. 9.40 lakhs.

(c) Tender papers for civil construction work prepared for 30,000 tons capacity and on basis of which quotations were called for, were altered subsequently with revised bill of quantities to cover the 45,000 tons stage.

(d) Contract for plant and equipment for 30,000 tons stage was entered into in March, 1960. It was replaced by a revised contract in July, 1962 to cover the 45,000 tons stage.

(2) H.M.B.P.:

(a) Working drawings for main production/ancillary shops and equipment foundations contracted in February, 1960, had to be modified. Originally these were to be received between the period July, 1960 to July, 1962. Actual supply started from June, 1961 and has not yet been completed.

(b) Contract for plant and machinery executed twice first in March, 1960 for 45,000 tons stage and again in July, 1962 for 80,000 tons stage.

(c) There have been changes in the quantum of construction work. Certain new items cropped up after receipt of working drawings which were not anticipated at the time of tendering.

(3) F.F.P.:

(a) A fresh detailed project report for the third stage was called for in February, 1961. It was received and accepted by Government in May, 1963 i.e. three years after acceptance of original report (covering first and second stages) in April, 1960.

Additional expenditure on this report has been Rs. 15 lakhs.

(b) Contracts for plant and equipment have been executed three times—for first stage in August, 1958, for second stage in March, 1961 and for third stage in May, 1963.

The plant and machinery for first stage was received in 1960-61 and is lying idle. (cf. para 37).*

*At the time of factual verification it has been stated that as on 31st March, 1961, Rs. 5 lakhs worth of machinery was received against Rs. 10 crores worth of machinery for which contract was entered into with M/a. Technoexport, for the first stage.

(4) Other Effects (Common to three Projects):

- (1) Revised schedules of construction and erection of equipment prepared in 1962 (cf. para 22).
- (2) Cost estimates revised three times by the Corporation (cf. para 146).

**Committee's
recommen-
dation.**

20. Considering the revisions and modifications that had to be carried out in the Detailed Project Reports, Working Drawings, contract agreements etc. on account of the upward revision of the initial capacities of the various projects, the Committee are unable to appreciate the contention of the representatives of the Corporation and of the Ministry that there has been no extra expenditure and delays on this account. Besides numerous complexities that have been created due to changes in the schedules of commissioning, cost estimates etc., there is little doubt that if the revised capacities had been planned from the initial stages, various delays and extra expenditure on civil works and other items etc. would have been avoided. It is true that these projects were altogether new in the country and, therefore, called for a cautious approach but this approach does not appear to have been followed subsequently despite the advice of the Consultants. The Committee cannot help regretting that had the original capacities not been interfered with, these units intended for the first stage would have been fully commissioned by now and would have been in the production stage with the additional advantage of production personnel gaining in practical experience and skill.

21. Demand in a developing economy can always be expected to rise. In fact, even with the revised capacities, these plants would meet only a portion of the anticipated requirements during the Fourth and subsequent plans. In all such cases, the wiser course would have been to plan the initial capacities carefully after fully considering the requirements etc. and to execute them before any increase in the capacity was considered. Additional requirements should be met either by expansion of the existing units after they have been commissioned or by setting up new units. There have been similar other cases in the past, when capacities of projects were revised in the construction stage, resulting in delays in commissioning of projects and extra expenditure for example in H.E.L., Bhopal and Neyveli Lignite Corporation. The Committee would, therefore, suggest that Government may examine all these cases of revisions to assess the delay in commissioning and the consequent loss to the national economy apart from any infructuous expenditure involved in such revisions. Such a review would reveal many valuable lessons for future planning of projects.

C. Schedules of Construction and Commissioning of projects

22. The Committee enquired about the original time schedules for construction and commissioning of each project (stage-wise). It has been stated in reply that in the case of HMBP and CMMP the relevant detailed project reports did not stipulate any date of commissioning. However, based on the stipulated delivery dates of plant and machinery, revised contract for which was executed in August, 1962, it had been anticipated that certain shops of CMMP would be commissioned during 1964-65. As regards HMBP, the first schedule was stated to have been prepared on the basis of delivery dates as given by the Russian Consultants. Subsequently certain changes were made by Consultants and a revised schedule was prepared in April, 1962. Regarding FFP, it is stated that the first stage (23,000 tons) schedule note in the Detailed Project Report drawn up by the Consultants was solely on their experience of the conditions in their country. The combined schedule of first and second stages (i.e., upto 45,000 tons capacity) was finalised in March, 1962. No schedule for the third stage (80,000 tons capacity) has yet been drawn up. The time schedule for HMTP is stated to have been drawn up recently. Further different time schedules of commissioning of various projects have been given in Programme of Industrial Development 1961-66, Third Annual Report of the Corporation and the material furnished to the Committee.

23. *Evidently no definite schedules of construction and commissioning of projects were drawn up initially. There has thus been an element of uncertainty in this regard which might have partly been due to revision of capacities. It is essential for proper planning and execution that definite time schedules of construction and commissioning of projects are prepared as early as possible and are adhered to.*

24. According to the revised schedules drawn up in 1962, the progress of construction works and erection of machinery in the main shops of the projects is as under:—

Project	Shop/Works	Civil works/piles/foundation works (in case of FFP)		Erection of machinery and equipment	
		Programmed date of completion	Actual date of completion or % age of progress as on 1-8-63	Programmed date of completion	Actual date of completion or %age of progress as on 1-8-63
I	2	3	4	5	6
CMMP	(i) Machine and assembly shop	June, 1963	90%	February, 1965	11%
	(ii) Structural shop	April, 1963	86%	February, 1965	55
	(iii) Iron & Steel Foundry	February, 1963	75%	December, 1964	Nil
	(iv) Forge Shop	February, 1963	88%	April, 1964	Nil
	(v) Wood Working Shop	March, 1963	100% (March, 63)	November, 1963	75%
	(vi) Enabling Works	March, 1962	98%	December, 1962	52%
	(vii) Other Works	December, 1962 to Dec., 1963	ranges from 15% to 100%		
HMBP	(i) Heavy Machine Shop	June, 1964	30%	December, 1964	Nil
	(ii) Medium and Small Shop	April, 1963	70%	June, 1964	Nil
	(iii) Reduction Gear Shop	May, 1963	52%	April, 1964	Nil

1	2	3	4	5	6
(iv)	Coke Ovens Block	September, 1963	60%	June, 1964	10%
(v)	Auxiliary Block	November, 1962	98%	October, 1963	50%
(vi)	Other works (Stores, Work-shops, maintenance etc.)	June, 1962 to January, 1963	81% to 100%	June, 1962 to April, 1963.	Nil in most cases
FFP	(i) Grey Iron Foundry	December, 1963	50%	December, 1965	Nil
	(ii) Steel Iron Foundry	December, 1964	Nil	December, 1966	Nil
	(iii) Forge Shop	June, 1964]	Nil	August, 1966	Nil
	(iv) Rough Machine Shop	February, 1964	50%	July, 1966	Nil
	(v) Casting Cleaning Shop	January, 1964	Nil	January, 1966	Nil
	(vi) Wood Working Shop	November, 1963	88%	June, 1964	20%

Committee's observation. 25. *It will be seen that in many cases civil works have not been completed even according to the revised schedules. Progress in erection of machinery in most of the shops is also lagging behind schedule and is nil in most cases. It has also been noticed that various works had not been commenced according to the schedules. The Committee were, however, assured by the representative of the Corporation that the present schedules would be maintained. They trust that every effort would be made by the Corporation to adhere at least to these revised time schedules by expediting construction and erection works as much as possible.*

Delay in commissioning of HMTP. 26. *As stated in para 12, the HMTP was expected to be commissioned by the end of the Third Plan. A tentative target of production of Rs. 3 crores was also envisaged by 1965-66. The Committee are now informed that the commissioning of the project would be somewhat delayed and the output tentatively reckoned at the end of the Third Plan, would not be realised. This is attributed to delay in receipt of detailed project report and the protracted negotiations in fixing the prices of plant and machinery against the Czech credit of November, 1959 amounting to Rs. 23.1 crores. The Committee consider it unfortunate that it should have taken the Government and the Corporation 3½ years in the various stages i.e., preparation of detailed project report, finalising negotiations for purchase of plant and machinery, etc. They would recommend that a firm schedule of construction of the project should be drawn up immediately and every effort made to commission the project by the end of the Third Plan period, as had been envisaged.*

Need for immediate setting up of Technical planning cell in the Ministry to water progress. 27. *The Committee understand that progress of construction works is watched by the Ministry through monthly progress reports. No Planning Cell to watch the different stages of execution of the projects under the control of the Ministry and to concentrate on their broad technical and economic aspects has however, been set up as yet though the need for such a planning Cell was stressed in the Third Five Year Plan in 1961. In the Third Plan Review the importance of such a cell has again been highlighted. The representative of the Ministry stated during evidence that they were trying to organise such a cell. The Committee note that it has not been done so long but hope that the proposed cell would be organised without any further delay.*

D. Production Programmes

28. *Tentative production programmes (given in Appendix I) were drawn up by the Corporation for the three prod-*

jects in 1963. According to these programmes, production is envisaged as follows:—

Project	Envisaged production (in tons)					
	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69
1. CMMP (45,000 tons)	750	10,000	12,880	22,565	31,050	45,000
2. HMBP (80,000 tons)	1,800	16,000	22,500			
3. FFP (80,000 tons)	Casting 12 ton Castings and Castings and only wooden Forgings 3780 Forgings 19925 patterns 5700 tons plus 11400 tons plus 25250 CFT of pat- CFT of pat- terns terns					

29. These tentative production programmes are not based on any firm orders from the users except that the National Coal Development Corporation has placed orders for some belt conveyors from CMMP. It has been stated that the Corporation cannot finalise the production programmes unless orders are received from the users and the latter cannot indicate their requirements until designs of equipment are finalised by the Corporation. During evidence, the representative of the Ministry stated that the position was not so bad as it looked and that orders would be received. It is also stated that a team of planning experts has been invited from the U.S.S.R. to help the Corporation in the preparation of a ten year production programme. *The Committee trust that early action would be taken by the Corporation to draw up firm production programmes for each project in consultation with the users. They would also suggest that these programmes, when finalised, should be published in the Annual Reports of the Corporation.*

Need for drawing up firm production programmes.

30. The table below shows the year when Detailed Project Report was called for in respect of each project, year of commencement of production and the year when rated capacity is expected to be reached:—

Attainment of rated capacities.

Project	Year of calling for D.P.R.	Year of commencement of production	Year of reaching rated capacity	Total period taken in reaching rated capacity from commencement of production
1. HMBP	1957	1963-64	1970-71	7 Years
2. CMMP	1957	1963-64	1968-69	5 Years
3. FFP	1958	1963-64	1971-72	8 Years

31. Thus there would be a gap of 6 to 7 years between calling for the D.P.Rs and the commencement of production and it would also take 5 to 8 years for the projects to attain rated capacities from the time of commencement of production. It is stated that in U.S.S.R. and Czechoslovakia it normally takes five years for similar projects to commence production from the date of calling for Detailed Project Reports and a further period of four years is taken to attain full rated capacity i.e., total nine years period as against 11 to 14 years expected to be taken in the case of the Corporation's projects. The Committee feel that the gestation period in the case of projects of the Corporation is too long. They hope that every effort would be made by the management to attain production to optimum capacities as early as possible.

III

PLANT AND MACHINERY AND TRANSPORT

A. Plant and Machinery

32. According to the latest estimates, the plant and machinery for the four projects is expected to cost over Rs. 97 crores including customs duty, port trust charges, inland transport, handling charges etc. The value of orders placed so far is Rs. 49.51 crores, of which machinery worth Rs. 26.17 crores has been received.

33. The table below shows the value of plant and machinery received and installed at each of the projects:—

Delay in installation of machinery.

Project	Value of Machinery received	Value of Machinery installed	Percentage of (3) to (2)
(1)	(2)	(3)	(4)
FFP	11.41	1.22	10.7
HMBP	9.78	4.66	47.6
CMMP	4.98	3.91	78.5
TOTAL	26.17	9.79	37.4

34. Thus the percentage of machinery installed to that received is 10.7 in FFP and 47.6 in HMBP. The overall percentage of installed machinery to total received for three plants works out to 37.4. Slow progress in the installation of machinery has been attributed to the following:—

- (i) Delay in completion of construction work, piling work and in procurement of materials like steel, AC sheets etc.
- (ii) Lack of coordination in delivery of working drawings therefor had not been received. In the delivery of the equipment from the USSR. In this connection it is stated that while in some cases the equipment had arrived, the foundation drawings therefor had not been received. In others while foundation drawings had come, the equipment had not reached. In several cases, though both the equipment and the foundation drawings had come, the installation could not be done for want of AC sheets etc. There has been some improvement in the supply of sheets

but the non-availability of working drawings for equipment foundations still persists.

- (iii) Plant and equipment worth Rs. 10 crores for 1st stage of FFP having been ordered in 1958 even before the receipt of the detailed project therefor. The machinery was received in 1961 and is lying idle since then.

35. During evidence the representative of the Corporation stated that as far as possible they had endeavoured to synchronise the delivery of the equipment with the completion of construction of various shops but difficulty arose mainly due to delays in piling work and supply of materials like asbestos, cement sheets, C.I. sheets etc. He assured that they were trying to overcome the various construction difficulties and that they would keep up to the revised schedules drawn up in 1962.

**Committee's
recommendation.**

36. *The Committee are not convinced with the explanation given. They regret the slow progress in the construction of projects and in the installation of plant and machinery, most of which was received as far back as 1961-62. In spite of realising their inability to do the construction work according to schedule, the Corporation has not exercised due care in ordering the equipment and synchronising its receipt with the construction work. It is surprising that obvious dangers of damage etc. to the uninstalled machinery, which has to be stored, were not fully realised by the Management. This was unfortunate as subsequent events proved when heavy losses to the stored equipment were caused by the recent fire. It is also noteworthy in this context, that the period of performance guarantee of the equipment in the case of supplies from USSR extends to 18 months from the date of shipment. Apparently, in many cases, the equipment received from USSR will be installed after the guarantee period is over. That the management had to approach the Soviet suppliers to secure guarantee for a period of 3 to 4 months after erection is a further proof of lack of care in coordinating the construction work with the arrival of machinery from USSR. The Committee cannot over-emphasise the need for complete coordination in these matters. They hope that effective measures would be taken to remedy such a state of affairs and to step up the tempo of construction work so as to instal the machinery which is lying idle. Further, the Committee have no doubt that this lesson will be borne in mind while ordering machinery for future projects.*

37. In regard to placing of orders for machinery for FFP before the receipt of DPR referred to in item (iii) above, the Committee understand that the order was de-

*At the time of factual verification, it has been stated that according to an understanding that was reached during subsequent discussions with the Vice-President of Messrs. Prommashexport, Guarantee is operative for a period of 12 months from the date of commissioning subject to the condition that the equipment will be examined once in six months and preservative treatment given to them.

cided to be placed by Government with a view to take advantage of the competitive offer of Technoexport, Czechoslovakia. *The representative of the Corporation admitted that they have now enough experience not to take to this practice in future. The Committee hope that the necessary lesson will be drawn by Government to avoid recurrence of such cases in other projects.*

38. The Committee are informed that machine tools worth Rupees one crore have been ordered by the Corporation from Hindustan Machine Tools, Bangalore and 90 per cent of these machine tools have been received. **Indigenous Purchases.**

39. In this connection it has been brought to the notice of the Committee that at present machine tools are procured by public undertakings from the H.M.T. Bangalore, much in excess of their immediate requirements resulting in locking up of capital as well as delaying the deliveries of such machine tools to other industries. *The representative of the Corporation agreed that they should not procure these tools much ahead of requirements. The Committee suggest that suitable instructions may be issued by Government to all public undertakings in this regard.*

40. The Committee enquired about the extent of likely annual idle capacity of machinery till the attainment of rated outputs in the projects. It has been stated that it is difficult to give any precise indication in this regard, as it depends on the availability of designs, orders from the users, etc. However, it transpired during evidence that the installed capacity might not be utilised to a large extent in the years immediately ahead because of practical difficulties of (i) raw material shortages (ii) lack of matching supplies needed to complete the equipment made by the Corporation (iii) lack of suitable designs and drawings and (iv) shortage of experienced cadres. Further, the "6000 tons forging press", which has been decided to be added to FFP has a capacity of 30,000 tons of forgings a year in the higher weight range but the present requirements for such forgings are only about 6000 tons. The representative of the Ministry admitted that there was such a likelihood if full and sufficient care was not taken of every one of the above factors. He added that an advance programme of production was being worked out and that they would do their best on that basis. *The Committee hope that adequate steps would be taken by the Corporation and the Ministry to ensure optimum utilisation of capacity.* **Utilisation of idle capacity of machinery.**

B. Transport

41 Bulk of the plant and machinery imported by the Corporation is being received through the Calcutta Port **Delay in clearance of consignments at Calcutta Port.**

There have been delays in clearance of consignments and at the end of December, 1963 the following packages were still awaiting clearance at the port:—

	No. of packages
(i) lying for 3 months	3
(ii) lying for more than 3 months but upto 6 months	17
(iii) lying for more than 6 months but upto 1 year	9
(iv) lying for more than 1 year but upto 2 years	22
(v) lying for more than 2 years	1
TOTAL	52

Port demurrage paid.

42. Between the period from January, 1961 to September, 1963, the Corporation has paid a total sum of Rs. 36.26 lakhs to the Calcutta Port Authorities by way of "single rent" and "penal rent" on account of delays in the clearance of consignments. A break up of this amount together with contributory factors is given below:—

	Rs. in lakhs)
(i) Late receipt of shipping Documents	7.45
(ii) Defective Documents	7.46
(iii) Inability to move over-dimension consignments	7.92
(iv) Other Operational reasons, (including delays on the part of clearing agents)	13.13
TOTAL	36.26

Committee's recommendation.

43. In regard to (i) and (ii) above, the responsibility is placed on the suppliers. It is stated that the matter has been brought to their notice. In addition, a new procedure of payment under the credit arrangements, has been introduced last year. In spite of these measures, there has been no appreciable improvement in this regard. *The Committee fail to understand why there should be any delays in the supply of shipping documents or defects in their preparation and why should the Corporation be penalised for the same. At any rate, such difficulties should have been resolved with the suppliers in the very beginning. Obviously no commercial organisation would allow an expenditure of about Rs. 15 lakhs to be borne by it on this account. They would recommend that the matter should be carefully examined by Government with a view*

to streamlining the procedure as also to obviate such delays or defects in documents in future. In this connection the possibility may be explored of including a clause in the agreements for reimbursement of losses by the suppliers arising on account of delay in receipt of or defects in shipping documents.

44. As regards other reasons, it is stated that difficulties arose due to non-availability of special type of wagons required for over-sized consignments, packages getting loose or dislodged and improper marking thereon, delay in receipt of vouchers from clearing agents, etc. During evidence, the representative of the Corporation stated that this has been "a very unhappy experience" and that they have since asked the suppliers to give advance intimation so that they could plan timely movement. He also admitted that there had been delays in construction of projects for want of structural steel etc. which had been held up at the port for a long time.

45. *The Committee feel that the factors which have resulted in the payment of such heavy demurrage charges as well as congestion at the port could have been avoided if the Corporation had kept close liaison with the suppliers and programmed the movement of the consignments accordingly. They trust that immediate steps would now be taken by the Corporation to get the packages lying at the port transported to the projects' sites and to avoid any undue hold up at the port in future.*

46. The Committee understand that the Corporation has appointed its own clearing Agents at the Calcutta port and a sum of Rs. 18.86 lakhs has been paid to them since September, 1961. In addition, it has also set up a transport and movement office at Calcutta. It is now proposed to try the clearance work departmentally.

Earlier recommendation reg: Common Agency for clearance and transport work at Calcutta Port reiterated.

47. In this connection the Committee would invite attention to para 176 of their 32nd Report (Third Lok Sabha) on National Coal Development Corporation wherein they have recommended the setting up of a separate agency for dealing with work relating to customs clearance, transportation etc. of all Public Undertakings at Calcutta. The representative of the Corporation agreed that such an arrangement would be economical. *The Committee reiterate their earlier recommendation and hope that a separate agency would be set up by Government for the purpose at an early date.*

48. In regard to the transport arrangements made for production stage, the Committee are informed that the requirements have been intimated to the Railway Ministry and that they would make the necessary arrangements. It

Railway transport arrangements for production stage.

needs no emphasis that production at the projects would involve movement of large quantities of raw materials and finished products which would need special types of wagons, etc. There have been cases in the past when due to shortage of particular type of wagons, the imported equipment has been held up at the Calcutta port. The Committee suggest that the Ministry should ensure that the requirements of the Corporation for line capacity, special types of wagons etc. are finalised and necessary action initiated well in time by the Railway authorities.

IV RAW MATERIALS AND COMPONENTS

49. The following raw materials and components have been or are expected to be imported by the Corporation for production programmes already drawn up for various projects:—

Project	Value of Imports	Value of Output	Percentage of (3) to (2)	Items Imported
1	2	3	4	5
(Rs. in Crores)				
1. CMMP (1 year Programme 1964-65)	1.30	2.37	50.6%	Electric motors (Rs. 40 lakhs), ball bearings (Rs. 40 lakhs), alloy steel (Rs. 25 lakhs), special tools, measuring instruments and other accessories (Rs. 25 lakhs).
2. HMBP (2 years programme 1964-65 and 1965-66)	2.78	18.1	15.3%	Castings and forgings (Rs. 46.46 lakhs, sub-assembly items (Rs. 1.38 crores), finished auxiliaries such as electric equipment, ball Bearings, springs etc. (Rs. 32.95 lakhs) components for cranes (Rs. 60 lakhs).
3. FFP (3 years programme 1963-64 to 1965-66)	1.32	3.48	38%	Haematite pig iron, pure metal and ferro alloys, graphite and electrodes, measuring instruments, copper coated electrodes, die block steel and tool steel.

50. Thus it would appear that the value of imports of raw materials and components constitute 50.6% of the value of output of CMMP, 15.30% of HMBP and 38% of FFP.

51. These materials and components broadly fall into the following three categories:—

- (i) Auxiliary items which are required to complete the machinery produced at HMBP and CMMP such as electric motors, ball bearings and other sub-assembly components.
- (ii) Foundry materials like pig iron, electrodes, special steels etc.
- (iii) The HMBP also requires castings and forgings till FFP goes into production, i.e. by 1965-66.

**Attempt at
Indigenous
Production.**

52. It is stated that a list of auxiliary items required for HMBP and CMMP has been prepared and circulated to various units in the country through the Department of Technical Development of the Government of India. But at present there are only a few items which could be procured from indigenous sources as the capacity in the country is either not developed or is fully booked. The largest and urgent requirements are stated to be of electric motor and ball bearings. While the former are expected to be produced by the HEL during the next 4 to 5 years, the capacity for the latter is still to be developed. The representative of the Ministry has stated that they are planning for it.

Even in regard to such items as lend themselves for purchase from indigenous sources, it has been stated during evidence that requirements have not yet been assessed and intimated to various parties nor has any agreement been entered into with them. The representative of the Corporation stated that they proposed to do so now.

53. As regards foundry materials, it is stated that they have assessed the requirements and are examining the scope for securing them. Certain quantities of pig iron and coke, which are in short supply, have been stockpiled. It is also stated that alloy steels for which the annual requirements of FFP alone are 11,607 tons will have to be imported until the Durgapur alloy steel plant is set up. On attention being drawn to the observation of the Indian Productivity Team in their Report (1961) on foundry industry in Sweden, USA and Japan that the foundry industry in India suffered from lack of adequate supplies of raw materials such as high quality foundry pig iron, silica sand, coke and inadequate development of auxiliary industries to supply items like chaplets, moulding boxes, pins and bushes etc., the representative of the Corporation stated that they have taken the necessary measures.

54. It has also been stated that a standing Committee under the Chairmanship of the Chairman of the Corporation with representatives of Bihar Government has been constituted to foster development of ancillary industries at Ranchi for supply of components and raw materials for the Corporation. But it transpired during evidence that this Committee has not so far met even once since its constitution about six months back as none of its members could spare any time.

**Committee's
Recommendation.**

55. *Evidently, so far little attention has been paid towards developing indigenous sources of supply of raw materials and the auxiliary items required by the Corporation. It is unfortunate that the supply of electric motors and ball bearings etc. was not ensured so as to coincide with the manufacturing programme of the Corporation. In this connection it is pertinent to note that as early as 1957, the*

U.S.S.R. Team suggested that production of auxiliary items indispensable for completing the equipment of HMBP and CMMP should be secured in good time and planned supplies thereof ensured. The absence of such supplies and any uncertainty about them would now not only saddle the country with heavy foreign exchange expenditure on imports but is also likely to affect utilisation of full capacity of the plants. The Committee regret that the Corporation as well as the Ministry should have taken a complacent view of this important matter.

56. *The estimated value of raw materials and components required from other sources for each project at full production stage is expected to be 52 per cent of the output of CMMP, 45 per cent of HMBP, 36 per cent of FFP and 60 per cent of the HMTP. The need for making concerted efforts to locate and increase the indigenous production of components and raw materials required by the Corporation is evident. It is imperative that the Corporation should aim at ensuring that they are available from indigenous sources in the quickest time possible. The Committee suggest that, with this end in view Government should immediately appoint a Committee of technical experts which may include the representatives of the Corporation, Department of Technical Development and the Ministry to survey the indigenous capacity in this regard and to draw up, in consultation with the various interests concerned, a long term plan for allocating among various producers the responsibility for the manufacture of specified items. Attempts should also be made to standardise the components as far as possible. The representative of the Ministry welcomed the setting up of such a Committee.*

The Committee also consider it highly desirable that the Annual Reports of the Corporation should indicate the percentage of imported raw materials and components used in the manufacture of equipment so that the progress made in the utilisation of indigenous raw materials and components is known from year to year.

57. *In regard to castings and forgings required by HMBP for its manufacturing programme, till these are available from FFP, it is stated that attempts are being made to determine their availability from indigenous as well as foreign sources. The difficulty both in India and abroad would appear to be that the foundries are captive and castings are generally matched to the machine building capacity leaving no surplus for use by others. It transpired during evidence that no source of supply has yet been firmly located and it is expected that USSR Government might help in the matter or alternatively they might have to import from some other country. The Committee are*

**Uncertainty
regarding
supply of
castings.**

unhappy at this position and hope that effective steps would be taken to locate the source for the castings on which the machine building programme hinges.

Inventory.

58. It appears that the Corporation has not yet evolved any clear policy regarding procurement and stocking of stores required for production purposes. At present certain materials like rolled steel sections which are in short supply are being procured to meet two to three years requirements. During evidence the representative of the Corporation stated that in the light of experience they would review the position and reduce stocks to the minimum extent possible.

59. In this connection the Committee understand that in the machine building industry in U.S.S.R. stock piling of raw materials and components is not allowed for periods longer than 4 months and in Czechoslovakia a maximum of two months' requirements are stock-piled.

60. While the Committee appreciate that conditions of supply of materials are not similar in India, they would suggest that the Corporation should so streamline its purchasing and procurement procedures that the inventory is not unduly heavy at any time. It is desirable to avoid unnecessary locking of working capital in the inventories and stockpiling of scarce materials which would otherwise become available to other industries.

V

LOCATION OF PROJECTS, LAND ACQUISITION AND TOWNSHIPS

A. Location of Projects

61. The location of HMBP and FFP in Bihar and CMMP in West Bengal was decided by Govt. on considerations of regional development, proximity to raw materials, consuming centres, etc. The site for the former two projects was selected at Hatia (six miles from Ranchi) and for the latter at Durgapur with the assistance of consultants in 1957-58.

62. Subsequently, however, it was found that the soil conditions at Hatia were not satisfactory for FFP, in which case very heavy foundations were involved. This led to the following:—

Inadequacy of initial soil investigations.

- (i) Additional soil investigations were carried out by the Corporation in 1961 at a cost of Rs. 2·25 lakhs.
- (ii) Ultimately it was decided to go in for pile foundations. The system of piling to be adopted also presented difficulties. Various tests were conducted towards this end at a cost of Rs. 1·24 lakhs.
- (iii) It was only in 1963 i.e. 2 years after undertaking additional soil investigations that a satisfactory system of piling could be found out. The expenditure on piling is estimated at Rs. 114·00 lakhs.

At Durgapur also, a number of gravel pits were found after plans for the township had been drawn up, leading to further detailed survey work, revision of plans and a loss of about six months time thereon.

63. Thus the inadequacy of initial soil investigations has resulted in an extra expenditure of Rs. 117·49 lakhs and a loss of time of about 2 years on soil investigations at Ranchi and six months at Durgapur. It transpired during evidence that the selection of Hatia site was made on the basis of some preliminary soil investigations carried out by the State Government and the consultants. Later on, when the construction work started in 1961, it was found that the

bearing pressure was less for heavy foundations and called for more careful checking. The consultants also raised doubts.

**Committee's
recommendation.**

64. *The Committee regret that Government selected the sites for the projects without carrying out detailed boring and soil investigations, which were all the more necessary for this heavy engineering industry. Had this been done, it would have saved the extra expenditure of Rs. 1.17 crores and the time of 2 years in further investigations and decisions. Another unsatisfactory aspect of this delay is that the FFP which should have actually been commissioned along with HMBP if not earlier would now go into production much after the latter, thereby necessitating imports of castings and forgings for the machinery to be manufactured there. There have been other similar cases in the past e.g. H.E.L., Bhopal; and Barauni Refinery, where selection of sites was made on inadequate technical investigations leading to considerable extra expenditure and delays in the completion of projects. The Committee trust that at least now the Government would be cautious and take adequate steps to guard against location of projects on inadequate soil investigations. In this connection the Committee would also draw attention to para 32 of their 34th Report (Third Lok Sabha) on Indian Refineries Ltd. wherein they recommended that definite criteria should be laid down by Government for selection of sites for the public undertakings.*

B. Land Acquisition

Original assurance of State Governments.

65. At the time of deciding on the location of the projects in 1957, the Bihar and the West Bengal Governments *inter-alia* agreed that the land for the establishment of the plants would be acquired by them at their own cost and the Government of India would not be called upon to meet any part of either the cost of land acquisition or the cost of rehabilitation of the displaced families.

66. The following land was given free of cost by State Governments in 1960 for establishment of the plants:—

By Bihar Government at Ranchi	2399 acres
By West Bengal Government at Durgapur	185.16 acres

Acquisition of land for township.

67. Regarding the land for the townships, the Central Government originally thought that the assurance of the State Governments covered the requirements of townships also. But subsequently it transpired that only the land required for the factories, including expansion thereof, was intended to be made available free of cost by State Governments and the land for the townships would have to be paid for by the Corporation. At that time, however an

understanding is stated to have been given by State Governments that the cost of land at Durgapur would be at the rate of Rs. 1500/- per acre and at Ranchi at Rs. 1200 per acre. The acquisition of the land was notified by State Governments in 1959-60.

68. Subsequently delays occurred in taking possession of the land and it had to be acquired by the Corporation at a very high cost as follows:—

- (a) *Delays.*—The possession of the land was first made over to the Corporation in 1962 i.e. about 2 years after notification. In fact the proposal for construction of the townships was approved by Government in November, 1960 but actual work started in April 1962.

Some of the land still remains to be acquired. So far, the Corporation has taken possession of 4013 acres at Ranchi and 1261 acres at Durgapur out of requirements of 5390 acres and 1500 acres respectively.

- (b) *Cost.*—At Ranchi, the land has been acquired at rates ranging from Rs. 3200/- to Rs. 6000/- per acre i.e. 3 to 5 times of the rate of Rs. 1200/- per acre originally indicated by the Bihar Government. At Durgapur, the rate of compensation has not yet been finalised. Some tentative payments have been made at about Rs. 2300/- per acre.

In addition, the Corporation has also paid to the land-lords the value of their immovable assets and solatium at 15% of the total compensation payable to them. The State Governments have also charged the value of land-lords' interest for 20 years and 5 to 20% on account of establishment/contingency charges for acquisition of land.

- (c) *Other effects.*—Due to delay in acquisition of land, the Corporation had to construct temporary houses in the land given for factories at a cost of about Rs. 2.7 crores. Alternative site for construction of township was surveyed at Ranchi. There has been set back in the construction programme of the projects as the recruitment programme had to be phased according to availability of accommodation. There has been increase in costs of townships as a result of rise in prices of materials and labour etc. during the 2 years' period.

Reasons.

69. It is stated that when the quantum of compensation for the Ranchi township land was under consideration in 1960, there was wide-spread agitation from Adivasis, who predominantly inhabitate the area, regarding low compensation (which ranged from Rs. 54/- to Rs. 1650/- per acre) paid by the State Government for land acquired for the factories. As a result of this, the State Government in 1961 increased the rate of compensation (which ranged from Rs. 2180 to 5250/- per acre) for the land already acquired for factories as well as that for township. Award is also stated to have been given by the court in respect of certain portion of land at Rs. 6000/- per acre. The enhanced rates of compensation were not acceptable to the Corporation and the matter has been under discussion between the Government of India, the Bihar Government and the Corporation. Ultimately the portion of land (about 831 acres) for which award had been declared was acquired at Rs. 6000/- per acre and the remaining land at rates ranging from Rs. 3200/- to Rs. 5450/- per acre by direct negotiations by the Corporation with the land-owners.

**Committee's
recommen-
dation.**

70. *It appears that the whole difficulty regarding land acquisition arose because the Government of India neither indicated the requirement of land (both for projects and townships) in specific terms to the State Governments nor got any clear assurance from them in regard thereto, as has been admitted during evidence. Had this been done, it would have obviated the various delays and heavy extra expenditure. It is evident that there should be clear and specific agreement on such issues in the very beginning as otherwise ambiguities arise which lead to difficulties and high costs. There have also been other cases where the original assurances given by the State Governments have been subsequently changed by them and the grant of free land had to be changed into financial participation of State Governments. In this connection a reference is invited to para 64 of 34th Report of the Committee (3rd Lok Sabha) on Indian Refineries Ltd. The Committee would recommend that the whole question of land acquisition for public sector projects may be examined by Government in a comprehensive manner and broad guiding principles laid down to avoid any similar difficulties in future projects.*

**Other Sug-
gestions.**

71. The following other suggestions were also discussed:—

- (i) *Rehabilitation of displaced families.*—Though the responsibility for rehabilitation of persons displaced by the projects rests primarily with the State Governments, the Corporation should lend

full support and help to them in securing decent means of livelihood and in providing suitable jobs after training in the projects. The representative of the Corporation stated that they were already training some boys from the displaced families and proposed to employ all who were skilled.

- (ii) *Regulating land transactions.*—The desirability of regulating land transactions in the project areas, so as to curb any speculation in the sale of land and profiteering, may be considered in consultation with the State Governments. It is stated in this connection that there has been considerable speculation and profiteering in land at Ranchi. The Committee also understand that a private sector unit has purchased land at much lower prices at Ranchi.

The Committee expect the State Governments to ensure that the rates at which land is made available to the public undertakings and private sector units in the same area are uniform as far as possible.

C. Townships

72. Two townships—one at Ranchi and the other at Durgapur—are being set up by the Corporation. The number of houses being constructed at Ranchi is 18,000 and at Durgapur 5,000 i.e. a total number of 23,000 houses. The number of persons expected to be employed in the plants is also about the same.

73. As against the estimated cost of Rs. 31.90 crores in Estimates of 1960 on both the townships (Rs. 24.40 crores of Ranchi and Cost. Rs. 7.50 of Durgapur township) their cost is now placed at Rs. 43 crores (Rs. 33 crores of Ranchi and Rs. 10 crores of Durgapur township). This rise of Rs. 11.10 crores in estimates within 3 years has been attributed to increase in costs of labour and material, land, sewage works, addition of houses (2,000) to meet the requirements of HMT Plant, etc.

Comparative cost of townships.

74. The table below gives the comparative cost of the townships at the three Steel Plants where conditions are more or less similar, and the Corporation's townships, together with total capital investment on the Plants:—

(Rs. in crores)

Particulars	Cost of township	Total investment on Plants	Percentage of (2) to (3)
(1)	(2)	(3)	(4)
<i>HSL's townships</i>			
1. Durgapur . . .	17.29	189.20	9.1
2. Bhilai . . .	15.17	202.34	7.4
3. Rourkela . . .	14.33	224.39	6.3
TOTAL	46.79	615.93	7.6
<i>HEC's townships</i>			
1. Durgapur . . .	10.00	30.30	33.0
2. Ranchi . . .	33.00	176.30	19.0
TOTAL	43.00	206.50	21.0

High cost of townships.

75. Thus whereas the cost of townships of HSL works out to 7.6% of the investment, it is 21% in the case of townships of the Corporation. The disparity in percentage in Durgapur is still more glaring. In this connection the Committee also note, that while the plinth area construction costs of various types of quarters built by National Coal Development Corporation at Ranchi has ranged between Rs. 14.40 to Rs. 16.80 per sq. feet that of Corporation's quarters of more or less same category, it has ranged between Rs. 13.95 to Rs. 20.78.

Reasons.

76. It has been explained that the Corporation had to incur more expenditure on foundations as the soil was not good, one water, electricity supply, etc. It is also stated that there were not many amenities which could be shared with the Ranchi town.

Committee's recommendation.

77. The Committee feel that the cost of townships of the Corporation which works out to as much as 21% of the total investment is disproportionately on the high side, as has been admitted by the representative of the Corporation

during evidence. It should be realised that the investment on townships which is unproductive—will have a bearing on the cost of the products by way of adding to the depreciation, overheads and interest charges. In fact, based on the number of employees, the average cost of a quarter per employee works out to Rs. 19,000. It is doubtful whether expenditure on houses at such a lavish scale could be incurred from the general point of economy, much less from the commercial viewpoint of the Corporation. It is very essential, that utmost economy is exercised in this regard. With this end in view, the Committee would recommend that the cost of the townships should immediately be reviewed and brought down to the absolute minimum.

78. In this connection, the following points may also be borne in mind:—

- (1) The total expenditure on non-residential buildings is estimated at Rs. 2.43 crores i.e. Rs. 100 lakhs on hospitals, Rs. 41.17 lakhs on Schools, Rs. 65.73 lakhs on shopping and community centres, Rs. 35.85 lakhs on town hall and reading room, guest houses etc. *Such heavy expenditures on these buildings are hardly justified and need to be pruned down considerably.*
- (2) At present, the construction of quarters seems to have been taken up for the entire number of personnel required for the Plants at full production stage. *The construction should have been phased and spread over a number of years. It should bear some proportion to actual requirements from time to time.*
- (3) The Corporation has constructed 4850 temporary quarters (4484 at Ranchi and 366 at Durgapur) at a cost of Rs. 2.70 crores. *The representative of the Corporation stated during evidence that with proper maintenance these houses could last for about 15 to 20 years and to that extent they could obviate the construction of permanent houses. These houses should be properly utilised as long as they can last.*
- (4) *The designs of houses may be reconsidered so as to make them simpler and cheaper.*
- (5) *The establishment and other expenses are estimated at 6 to 7% of the total investment of Rs. 43 crores. These seem to be on the high side and could perhaps be brought down considerably by increasingly resorting to lumpsum system of contracts.*

General question of cost of townships.

79. Due to location of public undertakings in out-of-the-way places, considerable expenditure is being incurred in the construction of big townships. It has been estimated in the Annual Report on the working of Industrial and Commercial Undertakings of the Central Government for the year 1962-63, that the cost of townships of ten undertakings alone, which are under construction (e.g. H. E. C., HEL, Indian Refineries etc.) is likely to be of the order of Rs. 100 crores. Further, the expenditure on up-keep and maintenance of these townships is also much in excess of the recoverable rents and therefore considerable subsidies have to be borne by the undertakings. This is in addition to the depreciation and interest charges. This adds to their social overheads and consequently to the cost of production.

80. The Committee discussed with the officials whether this unproductive expenditure should be tagged or to the Commercial Undertakings. Both the representatives of the Corporation and the Ministry agreed that such social overheads should be kept separate from the commercial part of a project. The latter also stated that this matter was under consideration of the Finance Ministry but no decision had yet been reached.

Committee's recommendation.

81. *The Committee feel that the addition of the heavy costs incurred on townships and other social amenities add to the cost of the projects and tend to affect the economics of the projects. The cost of production of every item goes up. When that item enters into the production process of other Undertakings, the end product bears the cost of two or more townships with the result that it is priced out in the world markets. They would, therefore recommend that the matter may be examined by Government in a comprehensive manner, with a view not only of proper allocation of such an expenditure but also finding out ways and means of reducing it to the absolute minimum.*

82. In this connection the following suggestions may also be borne in mind:—

- (i) *At present considerable expenditure is incurred on the provision of medical and education facilities by undertakings, which should largely be the concern of Employees State Insurance Corporation and the State Governments. The expenditure on such facilities by HEC alone is estimated at Rs. 1.42 crores. It has been stated in*

this connection that they approached the ESIC and the State Governments but to no avail so far. It, however, appears that there is also a general tendency among public undertakings to provide these facilities themselves with a view to keep them under their own control rather than approaching the appropriate authorities for the same. It has also been mentioned that certain categories of employees (over Rs. 400) will not be covered by the ESIC. To avoid two agencies providing separate medical facilities to the employees (i.e. ESIC to employees drawing salary upto Rs. 400 and the undertaking for others, it is suggested that one agency, preferably ESIC, may provide the entire medical facilities by obtaining suitable contribution from the Undertakings.

(ii) Dispersal of houses

The desirability of dispersal of houses to adjoining villages so that the cost as well as the servicing might be less and the villages would also be developed i.e. a sort of "satellite towns". The villagers will get a share of the expenditure of the employees and that will give them better economic prospect. The representative of the Corporation agreed that it would be a "very sound arrangement" if suitable transport system could be developed and that the suggestion was worth examining.

(iii) Maintenance expenditure

Steps should be taken by undertakings from the beginning to keep the maintenance expenditure on the townships as low as possible and not in any case more than realisation from rent so as to avoid any incidence thereof on cost of production.

(iv) There is need to take advantage of financial assistance available under the Subsidised Housing Scheme. The public undertakings do not seem to take full advantage of the financial assistance available for industrial employees under the Subsidised Industrial Housing Scheme. In this connection the Corporation has stated that a request was made by them to the Bihar Government for a subsidy of about Rs. 31.88 lakhs for construction of 3,000 temporary houses

but the same was not acceded to by the State Government. In this context it is pertinent to note that the private sector industrial units seem to make full use of the assistance available under the scheme and thereby keep the cost of their townships considerably low e.g. Tata Iron and Steel Co., Jamshedpur are understood to have been allotted 1990 houses by the Bihar Government under the Subsidised Industrial Housing Scheme for the accommodation of their employees.

- (v) *The employees may be encouraged to build their own houses as is done in Jamshedpur.*
- (vi) *The expenditure on townships and other social amenities should be borne out of the undertaking's own resources or by borrowings to be ultimately written off from profits and not from the capital account as seems to have been done by the H.E.C. In the case of TISCO's township at Jamshedpur, the expenditure is understood to have been financed out of the Company's own resources which included borrowings from different sources including Government under the Subsidised Industrial Housing Scheme.*

Desirability of laying down standard designs and specification of houses.

83. The Committee are informed that the Corporation has followed the pattern of houses i.e. plinth area and scale of accommodation as laid down in the Finance Ministry's O. M. No. 1063/SF/60 dated 23-3-1960. Their plans are also stated to have been scrutinised by the Committee on Plan Projects.

84. In this connection the Committee note that though Government have prescribed the plinth areas and scales of accommodation for different types of quarters in public undertakings, no standard designs and specifications of the houses, amenities to be provided etc. have been laid down. It has, however, been stated that these have been dealt with by the Committee on Plan Projects in a general way in their Report on Industrial Townships (1963). *The Committee would recommend that the question of laying down standard designs and specifications of the houses, scale of amenities to be provided, overall ceiling of costs, rent to be recovered etc. may be examined by Government, and specific instructions issued in this regard to public undertakings.*

VI

CONTRACTS AND OTHER CIVIL ENGINEERING PROBLEMS

A. *Contracts*

85. A large number of contracts have been entered into by the Corporation for construction works of the projects and townships. Certain peculiar features relating to some of these contracts came to the notice of the Committee during the course of the examination which are set forth in the succeeding paragraphs.

(i) *Acceptance of tenders other than the lowest and awarding of contracts without calling for tenders*

86. The table below shows the number of cases and the amount involved in which (i) tenders other than the lowest have been accepted and (ii) contracts awarded without calling for tenders during 1962-63:—

Tenders other than the lowest accepted Contracts awarded without calling for tenders

Project/township	No. of cases	Amount involved	Percentage to total value of contracts awarded during 1962-63	No. of cases	Amount involved	Percentage to total value of contracts awarded during 1962-63
(i) HMBP	2	13.17	8%	19	1.95	1.9%
(ii) FFP	.	684.10	36.8%	4	28.70	6.2%
(iii) CMMP	3	5.39	2.7%	29	2.89	1.4%
(iv) Townships	7	131.38	12.9%	9	46.66	4.6%
TOTAL	20	834.04		61	80.20	

87. Thus in 1962-63 alone, tenders other than the lowest have been accepted in 20 cases. Besides, contracts were awarded without calling for tenders in 61 cases. These have been sought to be justified on grounds of urgency, etc. In most of these cases approval has been given by the Chairman and other officers of the Corporation under the powers delegated to them by the Government. Such cases do not appear to have been placed before the Board for its approval.

88. *The Committee feel that the awarding of a large number of contracts in this manner is not proper and is open to criticism. It indicates that the works were not planned in advance and had to be rushed through. Most of these cases, particularly those relating to the townships, could have been avoided by advance planning. The Committee recommend that the matter may be looked into by Government and proper precautions taken to avoid recurrence of such case in future.*

(ii) *Increase in the value of contracts*

89. The table below shows the cases in which the value of contracts has been increased after the contracts were entered into or additional payments were made to the Contractors.

Category	No. of cases	Additional amount paid likely to be paid
		(Rs. in lakhs)
Due to delay in supply of materials by Corporation	1	1.06
(b) Due to increase in quantities or extra items	35	90.92 (likely to be considerably more).
(c) Due to escalation clause in contracts for increase in price of materials and labour rates.	NK	Lumpsum provision of Rs. 15 lakhs made in the cost estimates on account of escalation clause for materials. Payment of Rs. 17.5 lakhs anticipated on account of labour escalation clause.

*HMBP 11 cases, FIP 5 cases (excluding a number of other civil works contracts for which preparation of detailed drawings is in progress, CMMP 11 cases, Townships 8 cases.

90. In regard to (a) above it is stated that a contract worth Rs. 19.47 lakhs for outdoor water supply work at HMBP was awarded to Mr. K. Singh in May, 1961 and it was to be completed by March, 1962. The Corporation undertook to supply pipes to the contractor and placed orders therefor on Indian Hume Pipe Co. but they could not supply the same till the period of contract was over i.e. March, 1962. The contractor refused to carry out the work unless rates were enhanced. Accordingly the rate was increased by 5.46 per cent (i.e. by Rs. 1,06,327). The pipes were arranged to be cast at site by the Corporation in the extended period and supplied to the contractor. *The Committee feel that it would have been possible to avoid this loss of Rs. 1.06 lakhs by proper planning. They hope that the Corporation has learnt the necessary lesson and would guard against such losses in future.*

91. As regards (b) it is stated that tenders have been based on the schedule of quantities supplied by the collaborators in the detailed project reports but on receipt of working drawings some new items had cropped up and in some cases the quantities of previous items had to be revised and done by the same contractors. The rates for extra items are fixed by a Claims Committee consisting of officers of the Corporation. There have been a number of cases when the contractors have differed from the decision of this Committee and the representative of the Corporation stated during evidence that an Arbitration Board would be set up to settle such pending claims.

92. *The Committee feel that such a large revision of the contract value vitiates the terms on which tenders are originally called and contracts placed. It appears also that certain changes were due to revision of capacities. It is elementary that before a work is undertaken full data relating thereto should be worked out. They hope that such situations as mentioned above would be avoided in future.*

93. Regarding (c), it is stated that there is an escalation clause in civil contracts in regard to increase in statutory prices of steel and cement, prices of bricks, stone chips etc. and increase in labour rates. The escalation clause *inter alia* provides that if the contractors are unable to procure steel at Col. I rates and are allowed by the Corporation to buy steel at Col. II or Col. III rates the difference will be borne by it.

94. The difference in prices of Col. I and Col. II rates is stated to be about Rs. 45 per ton and of Col. II and III* rates about Rs. 90 per ton. The additional payments to be made by the Corporation on this account are not readily

*Col. I is producer's rate, Col. II wholesaler's rate and Col. III stockist's rate.

available. It has been justified on the grounds of urgency. Evidently, it seems that the producers could not supply steel at Col. I rates in time as orders had not been placed on them well in advance. This would clearly indicate a certain lack of planning in ordering supplies. The Committee recommend that the Corporation should plan its requirements of steel and other materials well in advance so as to avoid such extra expenditure in future.

(iii) *Other unusual features in contracts*

(a) *Compensation for not giving further work*

95. The contract entered into with M/S Shalimar Tar Products in May, 1963 for construction of certain quarters at Ranchi Township valued at Rs. 4.23 crores *inter alia* provides for the payment of compensation by the Corporation at a graduated scale ranging from Rs. 3 to 10 lakhs if further work is not allotted to the contractor. This has been sought to be justified on the ground that prefabricated process of construction has been adopted for which the contractor has to set up a factory at a high cost. It is also stated that the contingency of payment of compensation is not likely to arise.

(b) *Grant of advances*

Apart from secured advances made to the contractors as admissible under the C.P.W.D. Code, advances amounting to Rs. 75.10 lakhs have been made to 7 contractors for purchase of construction equipment and better progress of work etc. at varying terms.

(c) *Supply of Materials*

There is provision in the contracts for supply of materials like bricks, stone chips etc. by the Corporation to the contractors. This is stated to have been done in order to keep down the prices. It is stated in this connection that there is an acute shortage of such materials at Ranchi and price fluctuations have been wide.

96. During evidence the representative of the Ministry admitted that all these were unusual features. *The Committee feel that these terms especially the grant of advances to the Contractors are contrary to the principle of open tendering and vitiate the terms on which contracts are placed. The grant of such facilities are also open to public criticism. They would urge that these should not normally be resorted to.*

B. Constructional Defects

97. There have been the following defects in a number of buildings constructed by the Corporation:—

Description of defects	Remarks
A. Cracks developed in:	
(i) Temporary Building constructed for Central Design & Drawing office.	Cracks are stated to have been repaired at cost of Rs. 900/-.
(ii) Temporary 'B' Type Qrs.	Cracks repaired at a cost of Rs. 4000/-.
(iii) Experts hostel	Cracks stated to be of minor nature.
(iv) Canteen Block of Administrative Building.	Additional columns provided at a cost of Rs. 4000/-.
(v) A Building of FFP	Cracks stated to be of minor nature.
B. Collapse of storage shed at Hatia in a heavy storm in May, 63 and subsequent fire therein .	Shed was built at a cost of over Rs. 2.04 lakhs. Machinery worth Rs. 5.84 lakhs was also damaged.

98. The occurrence of cracks in the buildings has been attributed mainly to soil conditions at Ranchi. It is stated that taking of special measures would have cost considerably more and that some "calculated risk" had been taken due to urgency. Regarding collapse of Hatia storage shed, it is stated that a Departmental Committee enquired into the matter and it came to the conclusion that the collapse has been due to some defects in design. The subsequent fire in the shed has been stated to be accidental. During evidence the representative of the Corporation stated that the machinery involved in the damage had been salvaged and was being used.

99. *The Committee are not sure if the defects in the Hatia storage shed could not have been avoided. They are also not aware whether cracks have developed in other buildings in the area. Though under circumstances of urgency certain unconventionalities may have been inevitable the Committee trust that the management would take adequate steps to ensure that in future designs of buildings the soil conditions etc. will be borne in mind.*

100. *The Committee have observed that these defects have come in for criticism in the local papers. In such cases, earliest opportunity should be taken to clarify the position through the Public Relations Officer of the Corporation.*

101. The Committee understand that the Corporation has evolved its own schedule of rates based on State P.W.D. rates and H.S.L. rates for letting out contracts but the same are not comprehensive enough. Need for standard schedules of rates.

102. In this connection the Committee understand that in their report (1963) on Industrial Townships, the Committee on Plan Projects has observed that many public undertakings used the State P.W.D., C.P.W.D. or M.E.S. Schedules for preparing their estimates and scrutinising the tenders of contractors which were not comprehensive. They recommended the preparation of standard schedules of rates on a zonal basis. No action has so far been taken by Government in this regard. *The Committee feel that it would be desirable if on the basis of experience gained, standard schedule of rates are laid down by Government on a zonal basis for guidance of public undertakings. The representative of the Ministry agreed that standard schedules would be beneficial and helpful to the undertakings.*

C. Other Civil Engineering Problems

(i) Construction Equipment

103. Originally the Corporation decided that it would be made a condition when awarding contracts that the various contractors would bring their own construction equipment, required in their work. Subsequently, however, they decided to purchase such equipment and hire out the same to the contractors. The bulk of such equipment has been or is being imported. The value of orders already placed by the Corporation on foreign countries is Rs. 97·31 lakhs, out of the total estimated requirements worth Rs. 2·79 crores.

104. Table below shows the value of such equipment received by the Corporation, maintenance and depreciation charges thereon and the hire charges recovered from the contractors during the last two years:—

(Rs. in lakhs)

Year	Value of construction equipment (gross) at the end of year	Maintenance depreciation charges	Hire charges recovered from contractors
1961-62	35·62	1·72	0·68
1962-63	147·51	14·98	1·94

Thus it will be seen that as against the recoveries of Rs. 1.94 lakhs in 1962-63, the maintenance and depreciation charges alone on the equipment have been Rs. 14.98 lakhs. If interest on the capital at 4½ per cent is also taken into account the cost of such equipment to the Corporation would still be more by Rs. 6.64 lakhs. During evidence the representative of the Corporation admitted that it should not be a losing venture, though he said that some of the equipment was being used for departmental purposes regarding to which separate information was not readily available.

105. *The Committee regret that the Corporation went in for acquiring construction equipment estimated at Rs. 2.8 crores when it was stipulated in the contracts that the contractors would bring their own equipment. In fact the contracts are normally awarded on the basis that the contractors have all the necessary equipment, unless otherwise specified in the agreements. The hiring of costly equipment at uneconomic rates tantamounts to giving an unintended benefit to the contractors. The Committee hope that public undertakings would in future ensure that the contractors have the necessary equipment to undertake the work.*

The Committee also believe that the Corporation would take necessary steps to make this "venture" an economical proposition and ensure that at least the running, maintenance and depreciation charges are recovered from the contractors.

Attempt at procurement from other undertakings.

106. The Committee enquired whether before purchase of construction equipment, any attempt has been made by the Corporation to get such equipment from undertakings which have been completed. It has been stated that enquiries were made from Hindustan Steel Ltd., D.V.C., Hirakud and Neyveli authorities and that only two abandoned cranes could be got from Hindustan Steel Ltd. which have been put to use after reconditioning. As to the general procedure followed in this regard, it is stated that before any new equipment is bought, public undertakings are required to locate surplus equipment from other completed projects. The latter are also required to circulate list of surplus equipment to various undertakings before disposal.

107. However, from a list of surplus equipment available with some of these undertakings supplied to the Committee subsequently (Appendix II), it is seen that certain items of equipment* e.g., cranes, trucks, brick making machines etc. were available at Bhilai Steel Plant yet the same have been imported by the Corporation from U.S.S.R. The cost of brick making machines alone is Rs. 4 lakhs. The representative of the Corporation also admit-

*At the time of factual verification it has been stated that at the time when the HEC made enquiries from the Bhilai Steel Project for either loaning or outright sale to them of surplus construction equipment, they got a reply that barring 4 mobile cranes, no other equipment could be released to them.

ted during evidence that some equipment was available with D.V.C. but was not sold to them. *The Committee regret that this aspect has not been carefully gone into either by the Corporation or by the Ministry before sanctioning the imports, with the result that considerable avoidable expenditure in foreign exchange seems to have been incurred. They recommend that the present arrangements in this regard may be reviewed by Government with a view to avoiding any import of construction equipment that may be available with other projects in the country.*

(ii) *Desirability of building up construction potential in the Public Sector*

108. At present there are two agencies in the public sector viz., the National Building Construction Corporation and the National Projects Construction Corporation for undertaking construction work. The latter is also required to pool the construction equipment surplus from completed projects. These agencies do not yet appear to be sufficiently equipped to the tasks. Only a very small portion of the construction work of the Corporation is stated to have been undertaken by them. The bulk of the construction work is being done through private contractors and the Corporation has employed a large complement of engineers for supervision of their work. In fact the energies of the Corporation have been devoted mainly towards construction side with little attention to other important aspects of production i.e., arrangements for raw materials, components, setting up of ancillaries, training etc. Further difficulties are also stated to have been experienced by the Corporation in selection of competent contractors.

Construction Agency.

109. The Committee discussed the desirability of setting up a separate organisation for construction work in the public sector so that (i) the costly construction equipment and the experience gathered by the engineers may be fully and properly employed after the completion of a project and (ii) the factory management may be left free to concentrate on production matters. The representative of the Corporation stated that the ordinary building and civil engineering works should be undertaken by a separate organisation leaving the factory management to do specialised work like erection of machinery etc. He agreed that the National Projects Construction Corporation could be developed to undertake the construction work. The Additional Secretary to the Ministry did not favour setting up any other centralised agency for the purpose as he felt that it would be difficult for any single agency to deal with various construction works in different parts of the country.

110. *Considering the needs of a developing economy and increasing tempo of construction work in the public sector as well as the difficulty of getting suitable contractors*

the Committee are of the opinion that there is an imperative need to build up strong organisations in the public sector for undertaking construction and erection work. The setting up of such organisations will have the following advantages:—

- (i) *The costly construction equipment which is at present purchased by the undertakings for hiring out to the contractors (often at uneconomic rates) and is generally disposed of after completion of works, will be pooled and fully utilised thereafter, resulting in considerable savings.*
- (ii) *The large engineering staff which is now engaged by public undertakings for supervision and other work during construction period will not be necessary, thus saving considerable sums of money.*
- (iii) *A body of experienced engineering staff will be built up by such organisations for undertaking similar works in the public sector.*
- (iv) *The Management of Public Undertakings will be left to concentrate on matters relating to production from the very beginning.*

The Committee recommend that the matter may be examined by Government with a view to organising such agencies in the public sector. In this context the strengthening of the two existing organisations viz., National Projects Construction Corporation and National Buildings Construction Corporation for undertaking such works may also be considered by Government.

Civil Engineering.

111. The Corporation has developed its own drawing and design organisation for civil engineering. It is claimed that the organisation can undertake heavy engineering investigations, i.e., preparation of designs and working drawings for structurals, buildings, roads, public health, mechanical and electrical installations, townships etc. for other projects in the country. During evidence the representative of the Corporation stated that other undertakings could also make use of the organisation.

In this connection the Committee find that Hindustan Steel Ltd. has also similar civil engineering organisation. Further a Technical Consultancy Bureau has been set up by Government under the National Industrial Development Corporation for undertaking civil engineering works connected with public sector projects i.e., selection of sites, preparation of detailed project reports, working drawings and design of structurals etc.

112. The Committee discussed the desirability of pooling these agencies and setting up a central organisation for undertaking civil engineering work of public sector projects. The representative of the Corporation stated that it was a very good idea but the Additional Secretary to the Ministry felt otherwise and favoured leaving each big organisation to specialise in its own way. *Nevertheless the Committee feel that it is a very desirable development and should be encouraged. Government should, however, ensure coordination between these organisations and full utilisation of their expertise. At a later stage they may also consider pooling these agencies with a view to developing an independent strong central consultancy organisation for which there is a great need in the country. In this connection the Committee would also invite attention to para 269 of their 35th Report (Third Lok Sabha) on Heavy Electricals Ltd. wherein they have stressed the need for such an organisation.*

VII

FOREIGN COLLABORATION

113. The HMBP and CMMP are being set up in collaboration with Premmasherport, U.S.S.R. and the F.F.P. and H.M.T.P. with Technoexport, Czechoslovakia. In the former case, long term credits have been made available by the Soviet Government from the beginning—one of 500 million roubles in November, 1957 and the other of 1,500 million roubles in September, 1959—which, among others, covered the implementation of these projects. In the latter case though preliminary offers were received by Government from firms in various countries, including that from Technoexport, Czechoslovakia, the Czech. Government agreed to deferred payment terms for the FFP (upto 45,000 tons stage). Later on, the expansion of FFP upto 80,000 tons stage as well as the HMTP were included to be financed, among others, in the Czech. credit of Rs. 23·1 crores extended in November, 1959. Thus the primary consideration in deciding on the collaborators has been the availability of credit.

114. Table below shows the expenditure incurred or likely to be incurred by the Corporation on consultancy charges in terms of the contracts already entered into:

Consul-
tancy Charg-
es.

(Rs. in lakhs)

Remarks

Total

Czech Collaborators

Russian Collaborators

Item

HMTP

FFP

CMMP

HMBP

**A. Detailed Project Reports/
Working Drawings**

(i) Detailed Project Reports .	41.16	43.15	70.00	29.00	183.31	
(ii) Working Drawings for factory Buildings/equip- ment foundations.	64.00	51.50	3.50* (internal and external services)	..	119.00	*Preparation of other drawings under- taken in India.

B. Consultancy Fees

(i) Erection and supervision .	..	..	70.00 (excludes fee for 6000 tons Press—to be yet finalised)	4.25	74.25	
(ii) Consultancy activity	100.00	(not yet finalised)	100.00	

C. Foreign Experts	..	240.00	170.00	862.00	142.00	1414.00
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(Rs. in lakhs)

Item	Russian Collaborators		Czech Collaborators		Total	Remarks
	HMBP	CMMP	FFP	HMTP		
D. Organisation Manuals	8.00	9.00	10.24	..	27.24	
E. Technical documentation—designs of machinery to be produced	49.25	28.40	..	..	77.65	
TOTAL	402.41	302.05	1115.74	175.25	1995.45	
Its %age to total cost of projects (excluding cost of townships and common charges, Ranchi Projects)	10%	10%	11%	7%	10%	

115. Thus the consultancy charges work out to about 10% of the total capital on the projects which appears to be on the high side.

116. Table below shows the number of foreign personnel in position or to be deputed in terms of the agreements entered into by the Corporation with Russian and Czech collaborators and the period of their stay:—

Need to review requirements for Foreign Personnel.

	No. to be deputed	No. in position on 30-9-63	Period of stay	Jobs for which required
Russians (for HNBP and CMMP)	467	196	1—4 years	To assist in construction, erection, supervision, commissioning of plants including selection of contractors, acceptance of finished works, designing etc.
Czechs (FFP)	551	135	3 months to 8 years	
TOTAL	1018	331		

117. Thus while for HMBP and CMMP a total number of 467 Russians are to be deputed, for F.F.P. the number of Czechs required is 551 for periods ranging from 3 months to 8 years. Upto September, 1963, an expenditure of Rs. 1.15 crores has been incurred on salaries of these experts. The total expenditure on the experts is anticipated to be Rs. 14.14 crores (Rs. 10.04 crores on Czech experts and Rs. 4.10 crores on Russian experts).

It is stated that the requirement for Russian experts was worked out in consultation with Indian and foreign experts and for Czechs by a Technical Advisory Committee during the examination of detailed project report.

118. In this connection the Committee find that the number of foreign experts in H.E.L. as on 30-9-1962 has been only 34. In the case of steel plants, a technical Committee in 1958-59 assessed the total requirements for Bhilai at 279 and for Rourkela and Durgapur at 122.

119. The Committee realise the difficulties in securing sufficient number of suitably qualified Indian personnel for the projects of the Corporation. They, however, feel that the present number of foreign specialists, especially in the case of FFP on which an expenditure of about Rs. 10 crores is likely to be incurred, appears to be on the high side and the period of their stay of 8 years too long. They

Position in other undertakings.

Committee's recommendation.

* Agreement for H.M.T.P. is yet to be entered into.

would suggest that the requirements for foreign specialists may be reviewed by the Corporation with a view to keeping them to the minimum and obtaining maximum results from them by a well-planned replacement by Indian counterparts. For this purpose, it might perhaps be advantageous if the Indians are put in charge of the Sections as far as possible while the foreign technicians are entrusted mainly with the job of guiding them. The Committee feel that in this way Indians might be able to acquire the requisite experience in much shorter time and gain the necessary confidence.

Diversity in the provisions of Contracts.

120. The Corporation has entered into a number of contracts with the Russian and Czech collaborators for consultancy services, supply of plant and machinery etc. There is diversity in the conditions of contracts entered into with the two collaborators. The following table gives an idea of the diversity:—

Item	Provisions in the contracts with technoexpert, Czech.	Provisions in the contracts with Prommashexport, USSR
(1) Time limit for acceptance by Government of D. P. R. after receipt from consultants.	Not indicated	Indicated
(2) <i>Plant and equipment</i>		
(a) Penalty for delayed delivery	Prescribed	Not prescribed.
(b) Performance tests	Supplier to undertake functional/output tests and guarantee performance for a period of 9 months.	No provision for tests by supplier. Performance guaranteed for 12 months but not more than 24 months after delivery of equipment.
(c) Passing of risks	Supplier responsible till the equipment is delivered at Indian port.	Responsibility passes to Corporation from the time of loading at port of loading.
(3) <i>Foreign exports</i>		
(a) Leave Salary	Borne by Corporation	Borne by Collaborators.
(b) Expenses on interpreters	Do.	Do.

121. It has been admitted by the Corporation that the conditions of contracts with foreign collaborators change from contract to contract and that there are no hard and fast rules in this regard. The final terms are stated to depend largely upon the draft contract submitted by collaborators. The representative of the Ministry stated that there

could not be any manual in this regard and that during negotiations they tried to get the best possible terms. He however, undertook to see to what extent uniformity could be brought about.

122. *The Committee feel that it would be desirable if model terms for various types of agreements e.g. for supply of plant and machinery, consultancy activity etc. are laid down by Government for the guidance of Public Undertakings, with a view to bringing about uniformity as also to secure better terms while negotiating with foreign collaborators. In this connection the Committee would also invite attention to para 86 of their 32nd Report (3rd Lok Sabha) on National Coal Development Corporation wherein they recommended the setting of a special cell by the Government to deal with all foreign agreements.*

123. The Corporation has entered into contracts with USSR and Czech consultants for organisation manuals at a total cost of Rs. 27·24 lakhs. These will require to be further modified to suit Indian conditions. Normally the organisation is based on the information furnished in the detailed project reports and in fact other public undertakings like H.S.L., NCDC etc., are stated to have done so without entering into any separate agreements with consultants for the purpose.

Organisa-
tion Manuals

124. It has been explained that the projects of the Corporation are unique in nature and are being established for the first time in the country. Since the detailed Project Reports give only broad indication of the requirements of personnel etc., it has been considered expedient to get the details of organisation from the consultants. *The Committee are not satisfied with this explanation. They feel that there is a general tendency among various public undertakings to depend on consultants for every detail. This appears to be entirely due to a "habit of mind and to a lack of national self-confidence".* They recommend that such a tendency should be curbed by Government. In this connection the Committee would also invite attention to para 79 of their 32nd Report (3rd Lok Sabha) on National Coal Development Corporation wherein they recommended the laying down by Government of certain principles to guide the nature and extent of foreign collaboration in a project.*

*Dr. H. J. Bhabha's address to the National Institute of Sciences of India on 6-10-1963.

VIII

DEVELOPMENT OF THE INDUSTRY

A. Machinery for Steel industry

D mand.

125. In 1957, the Soviet Team estimated the annual requirement of heavy equipment required for steel plants and other heavy industries at 1.65 lakh tons* for a period of 10 to 15 years. The Planning Group on machinery industries set up by the Ministry, has however in their preliminary report (Feb., 1964) estimated the annual requirements at over 3 lakhs tons by the end of the Fifth Plan.

Present position.

126. The HMB Project of the Corporation is designed to produce 80,000 tons of machinery annually. There is a provision for expansion of HMBP to 1,65,000 tons but no details have yet been worked out. The present capacity of 80,000 tons is expected to be achieved by 1969-70 i.e. by the end of the IVth Plan.

127. In regard to meeting the gap of 2.20 lakhs tons annually, no definite decision has yet been taken by Government. The preliminary thinking in the Planning Group referred to above is that studies should be undertaken to determine to what extent production of heavier and larger range of equipment could be stepped up at Ranchi and what items could be taken out for production in other centres to be established for the purpose. The representative of the Corporation, however, did not favour any further expansion of the factory until the present capacity of 80,000 tons was achieved. The representative of the Ministry stated that the question of attaining additional capacity required a great measure of thinking. Personally he felt that a separate plant should be planned from now on-wards.

Committee's recommendation.

128. *It appears that no serious thought has yet been given by Government towards attaining self sufficiency in the machinery required for steel plants. The steps so far taken have been inadequate resulting in dependence on heavy imports. The Committee recommend that the proposed studies should be undertaken forthwith and a specially worked out plan for manufacture of heavy equipment and machinery required to support the contemplated industrial growth drawn up at an early date.*

*1.08 lakh tons required for increase of steel production by 2 million tons per year (1 million ton by establishing new unit and 1 million ton by expansion), 0.20 lakh tons of rolls for operational requirement of iron and steel industry and 0.37 lakh tons for other heavy industries.

129. In this connection the Committee would also make the following suggestions:—

- (i) Out of 1·05 lakhs tons of mechanical equipment required for a million ton steel plant, the HMBP is at present designed to produce only 70,000 tons and the remaining 35,000 tons (i.e. mechanical handling equipment, electrical equipment, compressors, boilers, instruments etc.) are to be obtained from outside sources. First priority should be given to the manufacture of such equipment. In fact the Russian Team in 1957 suggested that special consideration should be given to the establishing of plants for production of such equipment as their production at HMBP was not considered advisable.
- (ii) the nearness to sources of raw materials, consuming centres as well as soil conditions should be taken into account while deciding the location of new plant/centres.
- (iii) Any further increase in size of Ranchi complex, without allowing time to consolidate, might not be a step in the right direction.
- (iv) Due consideration should be given to the economics of scale while deciding the setting up of further units. In this connection it has been suggested to the Committee that it might be desirable to set up a number of small units designed to fill the existing gaps in the equipment manufacturing spectrum. In fact the U.K. Heavy Engineering Mission and the Jehangir Gandhi Committee (1957) also recommended such an approach as these would permit (a) a greater industrial base (b) earlier production and return and (c) dispersal and availability of skilled persons. But Government decided that it would be desirable to concentrate on a few large scale units.

In this context it is note-worthy that the pattern in other countries appears to be towards specialised units. Even in USSR where the economic system facilitates centralisation, the trend appears to be distinctly away from multi-purpose engineering units doing jobbing work towards specialised units each concentrating on one segment of the total task of manufacturing heavy equipment. It is stated that equipment for Bhilai was supplied by as many as 400 different units. In Poland the mining machinery is produced by 17 units, each specialising in a different type of equipment.

The above suggestions may be borne in mind. The Committee have no doubt that the pattern of development

in other countries would also be gone into by Government before arriving at the decision.

**Equipment
for Bokaro
Steel Plant.**

130. The Committee are informed that a technical Committee has broadly examined the scope of indigenous supply of equipment required for the Bokaro Steel Plant and it is of the opinion that a very substantial portion of the equipment (roughly 50 to 66% by weight) could be got indigenously manufactured through the agency of a large number of engineering concerns in the country. In fact the Minister of Steel, Mines and Heavy Engineering also stated in the Lok Sabha on the 22nd November, 1963 that 30-35% of the equipment required for Bokaro steel plant could be fabricated in the country.

131. The Committee enquired about the expected contribution of the Corporation towards supply of equipment for the Bokaro Plant. It is stated that the project report of the plant is under scrutiny by a Committee and that the precise picture would emerge after the total quantum of equipment required has been assessed by it.

The Committee feel that the setting up of the Bokaro steel plant is of crucial importance to the future of the country. They hope that after a firm assessment of the requirements has been made, the Corporation would make all possible endeavours to produce the maximum equipment of latest type required for this plant. They also trust that whatever equipment is produced by the Corporation would compare favourably both in price and quality with the imported equipment.

B. Coal Mining Machinery

132. In 1957, the USSR Team estimated the requirement of coal mining machinery by the end of the Third Plan at 40,200 tons. In 1962 a Committee of the Coal Council in India assessed the requirements at about 1.05 lakhs tons by the end of the IVth Plan. After taking into account the output of CMMP (45,000 tons) and that of private sector units (about 10,000 tons) the Coal Council recommended the setting up of a second coal mining machinery project. Government decided in March, 1963 to set up this project under the Polish credit of Rs. 15.5 crores extended in November, 1962. During evidence the representative of the Corporation stated that the capacity and the scope of the project has not yet been decided. He added that a Polish team will shortly be arriving for selection of site and working out the economic feasibility of the project.

**Committee's
recommendation.**

133. *Thus it would appear that even after about a year of Government decision, the preliminaries of the 2nd coal mining machinery project have not yet been determined. In this connection it is pertinent to note that as early as*

1957 the USSR Team recommended the setting up of additional plants as also undertaking manufacture of some of the items in other units. The Committee trust that at least now the Government and the Corporation would take urgent steps for the establishment of the project.

134. It has been suggested to the Committee that at present screens (i.e. high speed resonance and other types of mass balanced screen) crushers and pulverisers are not being manufactured in the country. Requirement for these would be enormous in the years to come as they constitute considerable portion of the preparation plants etc. and it would be better to consider setting up separate factories for these items. *The Committee suggest that this may be taken into account while deciding the capacity and pattern of production of the second coal mining unit, which the representative of the Ministry agreed to do.*

IX

FINANCIAL MATTERS

A. Capital Structure

135. The authorised capital of the Corporation was initially fixed at Rs. 50 crores. It was raised to Rs. 100 crores during 1962-63. The total subscribed and paid-up capital as on 31st March, 1963 amounted to Rs. 51.65 crores and borrowing on capital account from Central Government Rs. 5 crores. In addition, plant and equipment to the value of Rs. 15.53 crores had been or is being obtained on deferred payment terms.

136. The Committee are informed that the total block capital requirements (i.e. for fixed assets) of the Corporation are expected to be of the order of Rs. 250 crores. These requirements should normally be financed on the basis of 50% equity and 50% loan capital in terms of the present Government policy. But the representative of the Corporation stated during evidence that they had represented to the Government to allow them the entire capital requirements as equity capital because the heavy engineering was a capital intensive industry with a long gestation period and manufacturing custom-built products. The financing of requirements on the basis of above formula would saddle the Corporation with an interest liability long before the projects went into operation. On being pointed out that the Corporation might be allowed an "interest holiday" as has been done in the case of certain other undertakings like HSL, the representative of the Corporation stated that it would also not help them much. The representative of the Ministry stated that no decision had yet been reached in the matter and that they might vary the pattern ultimately. *The Committee feel that in view of the nature of the industry and the long gestation period involved, it might be necessary to vary the pattern to some extent. They hope that Government would examine the matter carefully and arrive at a suitable decision.*

**Working
capital re-
quirements.**

137. The requirements for working capital are expected to be of the order of Rs. 35 crores. It has been stated that they proposed to meet these by borrowing from the bank.

B. The Economics of the Projects

**Investment-
output
Ratio.**

138. The table below shows the investment output ratio in respect of each project as furnished in the D.P.R. and as per the latest estimates:—

Investment-output ratio as furnished in the Investment output ratio as per latest estimates
D.P.R. by Consultants

Project	Investment-output ratio as furnished in the D.P.R. by Consultants		Investment output ratio as per latest estimates	
	Capital cost	Value of annual output at full capacity	Capital cost	Value of output at full capacity
	(In crores of Rs.)			
1. HMBP	28.1	41.4	39.30	55
				1 : 1.4
2. FFP	61.7	5.0	100.00	10*
				1 : 0.1
TOTAL	89.8	46.4	139.30	65
				1 : 0.47
3. CMMP	17.5	22.8	30.20	25
				1 : 0.82
4. HMTF	18.6	9.8	25.00	10
				1 : 0.4
TOTAL	125.9	79.0	194.50**	100
				1 : 0.52

*Only for its surplus production for sale outside.

**Excluding cost of common charges (Rs. 12 crores) and townships (Rs. 43 crores).

139. The HMBP and FFP have been considered together because the latter is, a captive source of supply for the former. Thus, as against the D.P.Rs. investment-output ratios of 1:0.52 for these two projects, 1:1.30 for CMMP and 1:0.53 for HMTP, the ratios on the basis of latest anticipated costs and outputs work out to 1:0.47, 1:0.82 and 1:0.4 respectively. The overall investment output ratio of the four projects works out to 1:0.52. This, however, does not take into account the anticipated expenditure of Rs. 90 crores i.e., Rs. 12 crores on common charges, Rs. 43 crores on township and Rs. 35 crores on working capital. If that is also taken into account the investment output ratio would work out to 1:0.40.

It has been explained that the output of Rs. 100 crores was based on CIF prices. It would go up if the landed cost of imported equipment was taken into account.

Position in similar Projects.

140. The Committee enquired about the investment output ratio in similar projects abroad and in India. It has been stated in reply that no definite information was available.....The Committee, however, understand that in the heavy engineering industry in USSR & Czechoslovakia, the investment output ratio is 1:1. In USA, in a foundry (built at a cost of half a million dollars) the investment output ratio is 1:7 and in a machine tool unit with diversified production programme, single shift working the turnover equalled investment made on fixed assets only. In fact, it has been stated by eminent non-official industrialists that the investment-output ratio in the C.M.M.P. and HMTP which are middle weight engineering units should normally be 1:1.

Committees. Observation.

141. *The Committee feel that all the projects appear to be over-capitalised and their investment output ratio is on the low side. It is particularly disappointing in the case of H.M.T.P. In the case of HMBP and FFP, the low ratio seems to be due to inherent diseconomics of covering a wide manufacturing range relatively thinly. A number of highly expensive special purpose machines appear to have been added to take care of this range but yielding only marginal increases in the value of total output. A case in point is the "6000 tons forge press" which has been decided to be installed at F.F.P. at a cost of Rs. 6:3 crores. It is capable of producing 30,000 tons of forgings a year but at present it is expected to be worked to meet requirements of about 6,000 tons i.e., one-fifth of the capacity.*

Profitability.

142. The Committee are informed that in the D.P.Rs. for HMBP, CMMP and HMTP, a total annual profit of Rs. 19 crores (before taxation) has been estimated. The D.P.R. for F.F.P. has not indicated any separate profit figures. As the project is being built to meet the requirements of HMBP, only small portion of output would be available for outside sale.

143. The envisaged gross profit of Rs. 19 crores (before taxation & interest) works out to a return of 7.6 per cent. on the total investment of Rs. 249 crores on the projects. The Committee feel that the profitability of the projects is low and it may be many years before the Corporation is able to yield any return on the investment. In fact, the representative of the Ministry stated during evidence that it would take about 7 years for the Corporation to break even and another about 4 to 5 years to make any net profits. The Committee regret that due importance has not been given to the technical and economic feasibility of the projects initially. It is well-known that higher capital investment increases the cost of the products and adversely affects the competitive position of the undertaking. The Committee recommend that this aspect should be carefully gone into by Government before sanctioning any project in future.

Committee's
recommendation.

144. They would also recommend that the Corporation should take all possible steps to improve the turnover and the profitability of the projects. One possibility is taking on outside work to utilise idle equipment capacity as fully as possible. Secondly, when in course of time it becomes possible to narrow the range of production by opting for greater specialisation, it may be possible to get higher levels of output by more continuous batch production than will now be possible. The representative of the Corporation assured the Committee that they would give serious thought to this matter and endeavour to improve the position.

145. The Committee understand that in factories in other countries, there existed certain indices or ratios in respect of the labour and personnel employed, machinery installed, materials consumed, space occupied and other variable and fixed expenses, all of which have a bearing on improvement of output. The undertakings located in a region have some semblance of similarity in these techno-economic indices. The representative of the Corporation agreed that they should also maintain such indices. The Committee would recommend that all public undertakings should maintain such indices, with a view to secure proper utilisation of men & machinery, etc.

Techno-economic
indices.

C. Cost Estimates of Projects

146. A statement showing the costs of projects as estimated by the consultants and the Corporation from time to time is given in Appendix III. It will be seen that there have been frequent revisions in the cost estimates of the projects. The first estimates were prepared by the Corporation in 1960. These were revised in 1962 and again in 1963 on the basis of detailed projects reports for enhanced capacities and contracts awarded for civil construction work, plant and equipment etc.

Revision in
estimates.

D.P.R. estimates vis-à-vis anticipated expenditure.

147. The table below shows the cost of each project as estimated in the detailed project reports and as now anticipated—

Project	(Rs. in crores)		
	As estimated in the D. P. Rs.	As now anticipated	Percentage increase
1. Foundry Forge Project (80,000 tons)	61·70	100·00	62%
2. Heavy Machine Building Project (80,000 tons)	28·15	39·30	40%
3. Coal Mining Machinery Project (45,000 tons)	17·50	30·20	73%
4. Heavy Machine Tools Project (10,000 tons)	18·60	25·00	34%
5. Common charges (Ranchi Projects)	..	12·00	..
	125·95	206·50	64%

Thus as against the total estimated cost of Rs. 125·95 crores in the detailed project reports, the anticipated cost is now placed at Rs. 206·50 crores i.e., an increase of Rs. 80·55 crores (64 per cent.).

Reasons for increase.

148. The increase has been explained to be due to:

- (i) Additions made to the detailed project reports—Rs 65 crores*.
- (ii) Rise in cost of Foundry Forge Project—Rs. 16 crores.

In regard to (i) above, it is stated that several items of expenditure like sand washing plant, railway siding outside plant area, consultancy fees, customs duty, port trust charges, foreign experts, training of Indian personnel, enabling works etc. have not been included by consultants in the D.P.R. estimates. As regards (ii) above, the rise has been ascribed to increase in quantities of materials and works, pile foundations, more foreign experts and rise in cost of labour and materials, etc.

149. In this connection the following points are noteworthy:—

- (i) Even the present estimates are not final. It is stated that the estimates of F.F.P. do not take into account interest in deferred liability for supply of plant and machinery (Rs. 1·28 crores),

*Including Common Charges Ranchi Projects.

cost of trial operations and functional tests etc. The cost of H.M.T. Project is also stated to be subject to further revision. Further the present estimates have not yet been finally approved by Government.

- (ii) The representative of the Corporation stated during evidence that the cost of items not provided for in the detailed project reports was included in the memorandum of acceptance at the time of the approval of the project report by Government. In a subsequent note submitted to the Committee in this regard, it has, however, been stated that the extra capital cost on account of these items was submitted to Government in June, 1960 whereas the detailed project report HMBP (I & II stage), CMMP (1st stage) and FFP (I & II stage) were approved in November, 1959, August, 1959 and April, 1960 respectively. In the case of CMMP (2nd stage), FFP (3rd stage) and HMTP it has been stated that rough cost of extra items were prepared and submitted to the Government at the time of acceptance of corresponding detailed project reports.]

150. *The Committee fail to understand why costs of obvious items like consultancy fees, customs duty, port trust charges, foreign experts, training of Indian engineers, enabling works, sand washing plant, railway siding outside plants area, etc., which amount to Rs. 65 crores, should have not been provided for in the Detailed Project Report estimates. This is especially so when the Indian experts are associated with the preparation of the detailed project reports at every stage. Time and again, the Committee have emphasised that the total commitment on such projects should be prepared as realistically as possible in the beginning and should be available to Government and to Parliament before a project is approved. It is not correct to undertake a project on the basis of incomplete estimates and to subsequently increase the outlay thereon, which has in any case to be agreed to by Government—a feature which is fairly common to most of the projects and which has to be discountenanced. The Committee recommend that the final estimates of the various projects be immediately prepared and placed before Parliament with proper explanation for variations between the D.P.R. estimates and the anticipated cost.*

151. *The Committee regret to observe that in spite of a written enquiry from them, neither the Ministry nor the Corporation could furnish information regarding the capital cost of establishing comparable projects elsewhere.*

Capital cost of establishing comparable factory abroad.

The Committee consider the collection of such data very necessary. In the absence of such data, it is difficult to determine the reasonableness of estimates given by the consultants. The Committee hope that Government would take suitable steps to gather such basic information for future guidance.

Need for cost reduction Unit.

152. As early as 1961, the Third Five Year Plan has, among other things, specifically enjoined that each major construction project should establish a 'cost Reduction Unit' as a part of the construction organisation under the exclusive control of the Chief Engineer of the Project. The functions of such a unit are to carry out work studies, continuously analyse factors affecting costs, recommend suitable adjustments from time to time in materials, techniques, procedures and organisation, evaluate the results of such adjustments and keep a watch on progress in achieving economics in construction costs.

153. The Corporation has not yet established such a Unit. Reason given for this is that their design and planning unit has been looking after such aspects of work. It is also stated that certain measures of economy in the use of steel, construction of quarters etc. have been taken but the quantum of reduction in cost as a result thereof cannot be readily ascertained. During evidence the representative of the Corporation appreciated the need for a separate cost reduction unit and undertook to set up same immediately. .

154. *The Committee regret that such an important suggestion aimed at economy could not have been appreciated by the Corporation till now. There appears to be a considerable scope for saving in construction costs of the projects especially in civil construction works and establishment costs which amount to over Rs. 150 crores i.e., 60 per cent of the total cost of Rs. 249 crores on the projects and townships. The Committee would recommend that a cost Reduction Unit should immediately be set up by the Corporation and made an effective instrument of reducing the construction costs. In this connection they would also invite attention to the various other suggestions made in the Planning Commission's Memorandum on 'Reduction in cost of major Construction Projects'.*

Need for preparation of comprehensive completion reports.

155. Another important suggestion made in the Third Five Year Plan was that each major project should prepare a comprehensive completion report giving the entire history of the project, including mistakes which occurred and risks taken, remedial measures adopted and lessons drawn so that such a report might serve as a reference book and guide to engineers charged with the execution of similar projects in the future. The preparation of such a report should be begun while the works are in progress

and the events are fresh in memory. The report should be completed as far as possible, simultaneously with or soon after the completion of the project. So far, the Corporation has not prepared or even started preparing any completion reports in regard to its projects. The representative of the Corporation and the Ministry undertook to have such reports compiled now.

Thus, this is another instance where an important suggestion made in the Plan and aimed at economy and efficiency in working, has been overlooked both by the Corporation and the Ministry. The Committee expect that the valuable suggestions contained in the Plans are taken due note of and implemented by Public Undertakings without any delay. It is high time that Government issued specific instructions to public undertakings in the matter.

X
ORGANISATION

A. Board of Directors

156. The business of the Corporation is managed by a Board of Directors, all of whom are appointed by Government. A statement showing the present composition of the Board is given in Appendix IV.

157. There has been a full-time Chairman assisted by three functional Directors viz., Director (Finance), Director (Recruitment, Labour Welfare and Training) and Director (Construction). The Chairman and the Director (Finance) are Secretariat officials on deputation to the Corporation. The other two functional Directors are retired officials. The Chairman attained the age of superannuation in November, 1961, i.e., 2½ years after his appointment in May, 1959 and has been granted extension of service for a period of three years i.e., upto 15th November, 1964.

It is stated that the Chairman has recently (24th February, 1964) relinquished charge of the office, on his appointment as Adviser (Industry and Minerals) in the Planning Commission.

Need for provision in letters of appointments for earlier termination of services.

158. *From the terms and conditions of appointment of the Chairman and the other two re-employed full-time Directors it is observed that while the Chairman was given extension of service for three years, the Director (Recruitment, Labour Welfare and Training) was re-employed for three years and Director (Construction) for two years. The letters of their appointment contain no provision for earlier termination of their services on any ground. While the Committee agree that appointment to these top posts in public undertakings should be made for sufficiently long periods, they consider that there should always be provisions for earlier termination of services by giving three months' notice on specified circumstances. They regret that such obvious conditions were not included in the terms of appointment and recommend that these conditions should be incorporated in all future cases. In this connection the Committee would also invite a reference to para 64 of their 28th Report (3rd Lok Sabha) on Indian Oil Company Ltd.*

Delegation of Powers by the Board.

159. Article 92(b) of the Articles of Association of the Corporation enables the Board of Directors to delegate its powers to the Chairman, functional Directors and General

Managers etc. Article 93, however, also allows the Government to delegate the powers exercisable by the Board to the above mentioned officers. The result has been that some of the powers have been delegated to these officers by the Board and some by the Government as has been noted in para 87.

In this connection Government decision VII on the Krishna Menon Committee Report envisages as follows:—

“It is accepted that the Chairman or the Managing Director must have powers to act in any emergency in his discretion without consulting the Board. It would not, therefore, be proper to provide for such powers to the Chairman or Managing Director in the Articles of Association. It would be better that the Boards themselves delegate such powers to the Chairman or the Managing Director and in doing so it would be proper for them to require that any action taken in pursuance of this delegation should be reported to the Board at its next meeting.”

160. *Evidently, the present provisions of Article 93, of the Articles of Association of the Corporation appear to be contrary to the above decision and should be changed suitably.*

161. Following the usual pattern, the objects of the Corporation and the responsibilities of the Board are specified in its Memorandum and Articles of Association in a general way. In the case of Indian Oil Company, however, Government have issued a separate Instrument of Instructions specifying clearly the objectives to be attained, management responsibilities etc. Management responsibilities.

162. The Committee discussed with officials the desirability of issuing similar Instructions by Government in the case of all public undertakings. The idea did not find favour with them as they felt that the Memorandum and Articles of Association amply covered the scope of functions of the management. *The Committee, however, feel that it would be desirable if a Memorandum of Instructions setting forth clearly the objectives, targets, time schedules, etc. is issued by Government at the outset and thereafter periodically so that the Boards are clear about their responsibilities, and their plans, programmes and performance could be watched properly.*

B. Organisational set-up

163. At the Headquarters at Ranchi, the Chairman is assisted by three functional Directors, as has been stated in para 157. There are about 20 divisions, all of which are distributed amongst the Chairman and the three functional Directors. At the level of projects, there is a Present set-up.

General Manager each for Foundry Forge Project and Coal Mining Machinery Project, a Chief Project Officer for HMBP and a Special Officer for HMTTP. They have been delegated certain powers for their day-to-day administration, but presently the projects are stated to be under the control of centralised management to a large extent. In fact the present set up relates primarily to serve the needs of the construction stage and a suitable set up for the operational stage is yet to be evolved. It is stated that this will shortly be done on receipt of organisation manuals from the consultants.

Committee's
recommen-
dation.

164. *The Committee feel that the setting up and the operation of four big projects involve responsibilities which might be difficult for a single centralised organisation to manage efficiently. They, therefore, consider that it would be desirable to delegate the powers at the project level as much as possible, leaving the Central Organisation i.e., the Corporation to deal with policy questions, planning, co-ordination, provision of finance, manpower, staff services etc., as has recently been decided in the case of H.S.L. Both the representatives of Corporation and the Ministry agreed with this and undertook to reorganise the set-up as soon as the production stage was reached.*

C. Personnel Matters

Staff Strength

165. The table shows the present staff strength of the Corporation:—

Project	Construction Staff	Production Staff	Total
CMMP	2161	1236	3397
FFP	705	248	953
HMBP	2317	1313	3630
HMTTP	82	..	82
Townships	729	..	729
H. Qrs.	(to be filled up by Corpn.)		4136
TOTAL	5994	2797	12927

Construction
Staff.

166. Most of the staff in the Corporation is engaged on construction work. Among the construction engineers there are as many as 4 Chief Engineers, 8 Deputy Chief Engineers, 26 Supdt. Engineers, 155 Executive/Zonal Engineer, 285 Assistant Engineers, 411 Engineer Assistants and

123 overseers—making a total of 1012 engineer supervisors.

It is stated that the staff requirements have been determined from time to time according to needs. Recently, however, it has been decided that the work load for an Executive Engineer would be Rs. 40 lakhs a year if done by contractors and Rs.20 lakhs if done departmentally. In the electrical/public health engineering and maintenance works it would be Rs. 25 lakhs and Rs. 13 lakhs respectively. The strength of S.Es. and A.Es. is decided on the basis of supervision necessary for such works.

Basis of determining strength.

167. The Committee understand that in Public Works Departments, the normal work-load for an Executive Engineer is Rs. 40 to 50 lakhs when the area of work is concentrated and in some of the Divisions the load has been Rs. 80 to 90 lakhs per annum. In the M.E.S. a Garrison Engineer, who is equivalent to an Executive Engineer, normally handles works of value of Rs. 1 crore and at times as much as Rs. 3 to 4 crores in "operational works". In projects like D.V.C., Nangal, Bhilai where work is localised, the load is understood to be not less than Rs. 1 crore for an Executive Engineer.

Position in Government Departments and other Undertakings.

168. Evidently the work load for construction staff in the Corporation is considerably less than in comparable Undertakings. The representative of the Corporation admitted during evidence that the staff in various Divisions including Recruitment, Administration, Training Divisions etc. was on the high side.

In this connection the following points have also come to the notice of the Committee:—

(i) *Hierarchy of officers*: There are eight layers of officers in the Construction Department between the overseer and the Chief Engineer. The Head of a Division in some cases is designated as Assistant Engineer and in others as Zonal Engineer with more or less same duties. An Overseer and Engineer Assistant have some duties but different posts have been created. Similarly there are six layers of officers in the Inspection Department between the Assistant Inspecting Officer and the Director of Inspection.

(ii) The movement and railway construction engineer, who is responsible for construction of railway lines inside the plants is designated as Railway Liaison Officer. There is also a Liaison Officer, H.D.P. at Ranchi. The representative of the Corporation admitted that the various categories of staff needed to be brought on some rational.

(iii) *Peons*: There are as many as 369 peons in the Corporation for a total staff of about 12,000. in HMT for a staff of 5,000. the number of peons is only 38. The re-

representative of the Corporation admitted that the present number of peons was on the high side and undertook to reduce the same to barest minimum.

(iv) *Helpers*: There are as many as 332 helpers in the employ of the Corporation to assist the mechanics, carpenters, printers etc. by carrying their tools. There are no such helpers in HMT. In fact the Committee have deprecated the tendency in public undertakings of providing helpers to workers in para 120 of their 32nd Report (3rd Lok Sabha) on National Coal Development Corporation. The representative of the Corporation admitted that they also have to remedy this malady.

169. *The Committee feel that the present staff in the Corporation, especially in the construction Department, is on the high side. They would recommend that a comprehensive review of the staff requirements may be undertaken by the management with a view to reducing the existing strength, bringing the various posts on some rational basis and doing away with the system of providing helpers to skilled workers etc.*

Manpower requirements for production stage.

170. The table below shows the manpower requirements for production stage as estimated in the detailed Project Reports:—

Project	Employment		Total	Ratio between (2) and (3)
	Direct Workers	Others engaged on supervision, administration, design, training, etc.		
(1)	(2)	(3)	(4)	(5)
FFP	3938	2844	6782	1 : 0.7
HMBP	2625	2120	4745	1 : 0.8
CMMP	3465	2300	5765	1 : 0.7
HMTF	1101	585	1686	1 : 0.5
Others (i.e. H. Qrs. staff indirect production workers etc.) .	..	3500	3500	
	11129	11349	22478	1 : 1

171. It has been stated that the above manpower estimate is based on Russian/Czech, norms. It might have to be increased due to low productivity of Indian labour and

that a clear picture would emerge after receipt of organisation manuals from consultants. In fact, doubts have also been expressed before the Committee by non-officials that the employment might be much higher as has been the case in other Public Undertakings. During evidence the representative of the Corporation stated that though productivity would be low for sometime they would keep the staff to the minimum number.

172. In this connection, the Committee understand that in Sweden, a foundry producing 16,000 tons of castings annually is manned by 600 persons of which 550 are workers and 50 administrative staff. Similarly in the machine tools industry in West Germany, USA and Japan, the salient feature in the great majority of firms is stated to be the high percentage of direct productive workers in relation to non-productive workers. It is stated that in West Germany one supervisor to about 25 workers is on an average found to be a fair ratio. In the case of the projects of the Corporation for a total number of 11,129 workers the number of supervisory staff is estimated at 2,123 i.e. one supervisor for six workers.

Position in other countries.

173. *The Committee feel concerned at the excessive manpower which besets many of the public undertakings today. They hope that the Corporation would endeavour from the beginning to (i) restrict the number of administrative and supervisory staff, (ii) increase the productivity of direct workers by proper training and (iii) avoid any over-staffing particularly at the initial stages.*

Committee's recommendations.

174. It has been stated during evidence that it is proposed to take on more number of persons than provided for in the project reports so as to build up a reserve for deployment at other new machine building plants. In this connection the Committee would suggest that a clear distinction should be made from the beginning between the permanent work force of the units and those taken on for training with a view to transfer later to other units so that there is no difficulty in their mobility at a later stage.

(ii) Recruitment

175. The Committee are informed that there is a general shortage of technical personnel in the Corporation and that in certain categories viz. skilled workers, design engineers, Engineer Assistant Draughtsmen etc. It is rather acute and that a considerable amount in re-orientation of past experience is being attempted. Selection Teams have also gone to a number of centres in different zones to recruit Engineer probationers and I. T. I. certificate holders etc.

176. The table below shows the number of degree-holders, diploma holders and trained apprentices in the

Employment of Degree holders.

diploma holders and trained apprentices.

employ of the Corporation:—

	Degree holders	Diploma holders	Men trained as apprentices
1. Production Staff	723	59	397
2. Construction Staff	495	762	..
	1218	821	397

Thus among the production staff the ratio between degree-holders, diploma holders and trained apprentices is 1 : 08 : 0·5. The ratio of degree holders in the Corpn. is too high. In H.M.T., Bangalore, the ratio is 1 : 3 : 5.

177. *The present policy of the Corporation seems to be to recruit degree holders as probationers for manning the supervisory posts of Foremen etc. The Committee feel that degree-holders, who are scarce and more expensive should be utilised for design and technology and that diploma and trade certificate holders should be taken and trained for supervisory posts of foremen etc. They hope that the management would suitably modify their policy with a view to avoid taking men of higher qualifications for jobs which could be manned by persons of lesser qualifications.*

Need to lay down job specifications.

178. *The Corporation has not yet laid down job specifications for various categories of posts and the same are stated to be in the process of being worked out. The Committee are surprised that though the Corporation has been in existence for five years, job specification which is a pre-requisite for recruitment of right type of personnel, training, research, merit rating etc. should have not been laid down till now. They hope that the management would take immediate steps to lay down these specifications.*

Recruitment of Scheduled Castes and Scheduled Tribes.

179. *The Committee observe that the number of Scheduled Castes and Scheduled Tribes in the employ of the Corporation is less than that prescribed by the Government of India. They hope that the management would give more attention to this matter and recruit more candidates belonging to Scheduled Castes/Scheduled Tribes.*

(iii) Promotions

180. *The Corporation is stated to have followed a flexible policy of promotion. While in certain categories majority of posts are stated to have been filled up by direct recruit-*

ment, in others it has been by departmental promotion. In this connection the following points are noteworthy:—

(i) No ratio has been fixed for direct recruitment to various posts and departmental promotions.

(ii) No rules regulating the seniority of employees have yet been laid down. It has been admitted that there have been complaints regarding unjustification in promotions. The representative of the Corporation agreed that a definite ratio in this regard should be adopted which would keep the channel open for departmental persons as well as attract good persons from outside.

(iii) There have been a number of cases (about 20 cases) when Assistant Engineers and Executive Engineers having only a year or 6 months' service in the Corporation have been promoted to higher grades. This had been done in some cases irrespective of the fact whether sanctioned posts were available or not and where no vacancies existed, the posts held by the promotees had been treated as upgraded. It was explained in this connection that this had to be done to redress the grievances of certain senior and more qualified persons. The representative of the Corporation, however, admitted that as a matter of general propriety promotions should have not been made without a clear sanctioned vacancy and assured that such a thing would not be allowed to recur.

181. *The Committee regret that promotions should have been made by the Corporation prematurely and without there being clear vacancies. They are constrained to observe that the Corporation could not so far evolve a clear promotion policy and has resorted to practices which invite criticism. They trust that at least now the management would lay down a suitable promotion policy. In this connection they would commend the introduction of system of cadre schemes, on the lines adopted by the National Coal Development Corporation, as has been agreed to during evidence.*

(iv) *Service Conditions Rules*

182. The Committee are informed that rules contained in F.Rs. and S. Rs. are being followed in so far as employees working at Headquarters of the Corporation are concerned. As regards employees falling under the Factories Act, the standing orders for regulating conditions of their employment had been prepared sometime back but the same could not be finalised as certain amendments suggested to the orders by the Regional Labour Commissioner had not been acceptable to the Corporation. The matter is now stated to be under consideration of the Central Labour Commissioner.

183. The Committee are surprised that the Corporation should have not by now framed suitable rules regulating the conditions of service of its employees. They hope that immediate steps would be taken by the management towards this end. The representative of the Corporation assured that this would be done.

Other
Suggestions.

184. The following other suggestions relating to personnel matters have been discussed during evidence and may be considered:—

- (i) At present recruitment programme is stated to be planned on the basis of requisitions received from projects/divisions from time to time. There is need to assess the requirements of staff on a long term basis or at least on an annual basis and plan recruitment programme well in advance.
- (ii) the need to develop a well organised personnel Department in the Corporation with specified powers and functions.
- (iii) At present it takes the Corporation 5 to 8 months to make recruitment after advertisement of posts. There is need to reduce this time lag. The representative of the Corporation stated that they were themselves "unhappy" about it.
- (iv) the need to arrest drift of personnel. During last 3 years 152 technical/managerial personnel are stated to have left the Corporation.
- (v) At present there are as many as 50 different scales of pay in the Corporation. It is desirable to rationalise scales of pay attached to various posts in the Corporation and base them on work studies or job specifications.
- (vi) the need to maintain statistics of absenteeism in the projects.
- (vii) At present there are 126 deputationists in the employ of the Corporation. It is desirable to progressively reduce dependence on deputationists, by training the Corporation's own men in commercial accounting etc.
- (viii) the need to lay down performance standards for various categories of production staff.

XI

TRAINING, DESIGN AND RESEARCH

A. Training

185. As far back as 1957, the U.S.S.R. Team stressed the need for formulating a specially worked out training programme for the HMBP and CMMP Projects. The U.K. Heavy Engineering Mission also emphasised that each installation should have its own specialised training centre and it should be taken up in hand immediately so that training might progress while the unit was under construction. The Jehangir Ghandy Committee observed that the success of the project of this nature would depend a great deal on the training of the technical staff and skilled labour and recommended that a special Committee be appointed by Government to draw up a detailed training programme, in consultation with established engineering concerns, as soon as a decision was reached for the establishment of the projects.

Delay in
formulation
of training
programme.

186. *The Committee note that it was only in 1961 that a programme for foreign training and a scheme for setting up a Central Training Institute at Ranchi was formulated and approved by the Government, i.e. more than three years after the decision to set up the projects was taken. No Committee was appointed to draw up the training programme. Evidently the importance and the urgency of drawing up a proper training programme/scheme for the projects does not seem to have been realised by the Corporation and Government. What is more surprising is that the Corporation has not gone through the Report of the Jehangir Ghandy Committee—one of the reports which formed the basis of setting up the projects and which also stressed the importance of training. The Committee cannot but deplore the delay of over three years in formulating the training programme and the manner in which such an important matter has been dealt with both by the Corporation and the Government.*

(i) Foreign Training

187. The table below shows the number of personnel to be deputed for foreign training according to the programme drawn up in 1961, number actually sent and the number returned so far:—

Project	To be deputed		Sent so far		Returned so far		Period of training
	Country and period in which to be deputed	Engs./ Total Workers	Period in which actually deputed	Engs./ Workers	Total Engs./ Workers	Total Engs./ Workers	
HMBP	To USSR between June, 1961 to Dec., 1962	150/120	Nov., 1961 to Jan., 1964.	143/34	177	42/19	61 10 to 18 months
CMMP	To USSR between July, 1961 to July, 1962	140/87	Sept., 1961 to Jan., 1964	88/2	90	20/nil	20 12 to 18 months
FFP	To Czechoslovakia between July, 1961 to June, 1964	106/46	Aug., 1961 to June, 1964	51/nil	51	13/nil	13 6 to 15 months
TOTAL		396/253		282/36	318	75/19	94

188. Thus out of 649 personnel, most of which should have been deputed by July, 1962, the number sent even till February, 1964 is only 318 (49 per cent). What is more noteworthy is that only two workers have been sent in the case of CMMP and none has been sent in the case of FFP.

189. The delay in the implementation of the foreign training programme has been ascribed partly to non-availability of right type of personnel and partly to the "expected extension in the period of implementation of the projects".

Reasons.

190. In this connection the following points are noteworthy:—

- (i) There have been instances when due to delay on the part of the Corporation in adhering to the schedule of deputation, two batches of trainees have been held up for one to two months as instructions have been received from USSR to postpone the departure due to shortage of accommodation, factory concerned being not able to take the trainees etc.
- (ii) In their Report (1957), the USSR Team had suggested that only 30-40 engineers need be deputed abroad for training and that the rest might be trained in mines in India, Institute of Technology, Kharagpur and at other training Institutes in the country. As against this, the number now planned to be deputed is 140 engineers and 87 workers. The representative of the Corporation agreed that it might not be necessary to send large number of workers and that in fact there had been some divergence of opinion in this regard.
- (iii) The engineers sent abroad for training have been generally those who were recruited direct after graduation and after giving some language courses only. The representative of the Corporation stated that they were now giving some workshop training also to the extent facilities were available at the Central Institute, Ranchi. He, however, admitted that the trainees should possess adequate technical experience as also some experience of the job that they were expected to perform and undertook to make up the deficiency in this regard.

191. *The Committee regret that there should have been delays and shortfalls in the implementation of the foreign*
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training programme to such a great extent. They would recommend that the requirements for foreign training be assessed anew and a well planned programme drawn up therefor and adhered to.

(ii) *Training within the country:*

Central
Training
Institute
Ranchi.

192. A Central Training Institute has been set up by the Corporation at Ranchi at a capital cost of Rs. 1.29 crores. It started functioning in 1963 and has a capacity to train 1000 artisans, 200 technical apprentices and 150 engineer probationers at a time. But at present the first batch of about 300 artisans only is undergoing training.

Training in
other estab-
lishments.

193. Due to delay in the setting up of the Central Training Institute, arrangements had been made by the Corporation from 1962 to train a number of personnel in other establishments in the country. At present 750 artisans are stated to be undergoing training in certain units in the public and private sectors, like H.E.L. Bhopal; Chittaranjan Loco Works; TISCO, Jamshedpur, Eastern Railway Workshop, Jamalpur; Mysore Iron and Steel Co., Bhadravati, etc.

194. In this connection the following points emerged in the course of examination:—

- (i) The Central Institute is not yet adequately equipped for want of machine tools and other equipment. The representative of the Corporation undertook to expedite things and "do better".
- (ii) The number of persons to be trained in the Central Institute and other establishments in the country has not yet been determined.

In this connection, the Committee understand that the HSL arranged for the training of skilled workers and operatives in about 80 other establishments and trained about 5000 skilled workers and operatives in this manner.

- (iii) The present capacity of the Institute is not adequate to meet the requirements of HMTP and its expansion programmes. It is, therefore, proposed either to expand the existing Institute or to set up another Institute but no decision has yet been taken in this regard.
- (iv) The present scheme of imparting training to various categories of employees at the Institute which is stated to be based on the pattern of AEI, U.K., is subject to revision. The turn-out of trainees of required skill does not seem to have been assured under the present scheme, as has been admitted by the representative of the Corporation.

195. Evidently no serious thought has yet been given regarding making adequate arrangements within the country for the training of various cadres required for the projects. The Committee attach a great importance to adequate arrangements being made to the training of various categories of personnel required for manning the projects. The progress and ultimate success of the project depend a great deal on the availability of suitably trained men. It needs no emphasis that it takes time to train a worker. The Committee feel that it is not too late even if at this stage a Committee is appointed on the lines suggested by Jehangir Ghandy Committee, to assess the training requirements and evolve a suitable planned programme of training for the Corporation. A number of suggestions have been made in the Reports of the USSR Team and the U.K. Heavy Engineering Mission in regard to training which could also be considered by that Committee. The Committee would, therefore, recommend the immediate setting up of a Committee for the purpose.

196. It appears that the Corporation has not specified the training requirements in respect of the trainees deputed to foreign countries and to other establishments in India. This is a pre-requisite for any training programme to be effective. The Committee would recommend that the Corporation should evolve manuals of training in consultation with the foreign collaborators for the use both of the trainee and the trainer. In addition, there should be at least a quarterly report on the performance of the trainees from the units to which they are posted by the Corporation, indicating the progress made in different operations, maintenance schedules.

Need to draw up training manuals.

Other Suggestions

197. The following other suggestions which have been discussed during evidence may also be carefully considered:—

- (i) The need to introduce a proper system of induction of newly recruited employees. It has been stated that a system of induction was started but it could not be implemented successfully.
- (ii) It should be ensured that the trainees at Ranchi are assigned adequate responsibilities to keep them engaged for the whole day.
- (iii) The need to have a scheme for training of supervisory and middle grade management personnel. In this connection it has been agreed to take advantage of the Management Training Institute of HSL at Ranchi.
- (iv) It has been suggested to the Committee by an eminent industrialist that adequate number of

low level supervisors should be recruited from foreign countries for training Indian personnel in this country. The representatives of the Corporation and the Ministry undertook to examine this.

- (v) The feasibility of some payment being made by the collaborators to the Indian trainees deputed abroad, after some time for the value of the products produced by their labour, as has been indicated by M/S Schiess Aktiengesellschaft of West Germany in their preliminary offer (1955) on HMT.* The representative of the Corporation agreed that the suggestion was worth examining.

B. Design and Research

198. Referring to the importance of design and research, the USSR Team in their Report (1957) on HMBP observed that "the most important link in the organisation of heavy machinery manufacture is the basic technical documentation viz. the design drawings of the new machines and the description of the production processes. The economics of the plant as well as the technical and economic standard of its products are directly dependent on the quality of such technical documentation". For this purpose, the Team recommended the establishment of the following:—

- (i) Design bureaus within the plants for preparation and constant improvement of machine designs and production processes.
- (ii) A Central Institute for basic designing and research in heavy machinery and equipment.

Design Bureaus.

199. So far, a beginning has been made by setting up nucleus of design bureaus at HMBP and CMMP. They are at present mainly engaged in making simple modifications to basic designs of equipment obtained from abroad to suit Indian conditions.

Delay in the setting up of the Institute.

200. As regards the setting up of the Central Institute, Government appointed a Committee in August, 1961 under the Chairmanship of Prof. Thacker, to suggest the lines on which such an institute should be established. That Committee reached certain tentative conclusions in September 1963 which *inter alia* envisaged that the Institute would be an autonomous body on the lines of the Central Machine Tool Institute, Bangalore. It appointed a sub-committee to work out the estimates of the capital cost, recurring expenditure etc. The final report of the Committee has not yet been submitted to Government.

*The German firm stated "he is left to their discretion to pay to the Indian trainees usual wages in reward to their work which they will performed after having reached certain degree of mechanical education."

201. The delay in the setting up of the Institute has been ascribed to its scope being not clear. As to the reasons for inordinate time taken in the finalisation of Thacker Committee Report, it had been stated that its members had been pre-occupied with other work. No time limit had laid down by Government for the submission of the Report. The representative of the Ministry stated during evidence that the matter required a careful and detailed study. A decision regarding the scope and manner in which the Institute was to be set up would be taken as soon as the Committee's report became available.

202. In the absence of a proper design and research organisation for the industry, the following points are noteworthy:—

- (1) *Design difficulties.*—Difficulties are expected to be experienced by the Corporation due to lack of ready designs|technological documentation for undertaking manufacture of diverse items of heavy machinery. The Soviet consultants are stated to have agreed to give a certain minimum and essential quantum of technical documentation, as they feel that with the progress which they are achieving the designs might soon become outdated. They are stated to have suggested the following solution to the problem:—
 - (a) to commence production and training of design engineers with the documentation furnished initially by USSR;
 - (b) to give design engineers experience in original designing work by suitable modification to the Soviet designs to meet the local conditions; and
 - (c) to evolve original designs.
- (2) The problem of training design engineers and evolving original designs is by no means a simple one and is stated to take quite a long time to solve it.
- (3) *Little progress at standardisation of equipment.* The Corporation is stated to have come to an understanding with HSL regarding standardisation of blast furnace designs only. As to standardisation of other equipments, it is stated that they are in touch with the users. The representative of the Corporation admitted during evidence that the progress in this regard has been slow, though they would like to proceed with it at a faster rate.

In this connection it has been stated by an eminent industrialist in the steel industry that the Central Institute will have to take the initiative in

bringing about standardisation in equipment used in the industries to which the projects would supply equipment. Each of the three steel plants in the public sector are designed by a different country, incorporating its particular technical ideas and the private sector plants have chosen equipment from many sources in the world. It is easy to visualise the difficulties that arise in meeting spare parts requirements of such a heterogenous industry. It is also necessary to standardise equipment for new plants and greater the uniformity, the fewer the problems of manufacture and of building up a supply of spares.

203. *The Committee are constrained to observe that the urgency for a proper design and research organisation for the industry does not appear to have been sufficiently realised. Early standardisation of equipment, in close consultation with the users, seems necessary both for evolving original designs in the country and arranging technological assistance from various sources as no single source is likely to prove adequate to cover HEC's manufacturing range. In fact for CMMP, the Corporation has already entered into technical collaboration with a British firm for making a particular kind of coal cutter which is suitable for use in Indian mines. The Committee hope that Government would immediately take suitable steps to expedite the submission of the Thacker Committee Report and thereafter to set up the Institute. It may also be necessary to clearly demarcate the functions as between the Institute which would be an autonomous body and the Corporation's Design Bureaus so as to avoid any overlapping of functions as between them and thereby build up a design and research organisation for the industry on sound lines.*

204. *In this connection the following other suggestions may also be borne in mind :—*

- (i) *The need for a special unit or a cell in the Corporation charged with the sole function of maintaining liaison with the users on problems of design and research. There are innumerable fields in which the Corporation could work closely with users with the object of improvement in design, avoidance of premature failure, suitability of the equipment for the service conditions etc. In technically advanced countries, there seems to be an extensive exchange of opinion, suggestions and ideas between the manufacturers and users at professional gatherings and elsewhere. In fact the users like HSL, NCDC etc. would be the "shop windows" for*

overseas buyers of products of the Corporation in the years to come.

- (ii) **The need for a special cell or unit to translate into English technical literature published in other languages and thereby help in the development of new designs. The necessity for such a translation has been stressed by the Indian Productivity Team in their Report (1961) on machine building industry in USSR and Czechoslovakia. The representative of the Corporation stated that they have set up a nucleus translation bureau and would strengthen it.**

205. The Committee enquired about the extent to which the Corporation has made use of the research facilities available in the National Research Institutes and Laboratories in the country. It has been stated that they have referred one or two problems to the Central Building Research Institute, Roorkee; the Road Research Institute; the National Metallurgical Laboratory and the Central Fuel Research Institute regarding testing of soils, raw materials etc.

Need for making use of Research facilities available in National Laboratories Industries.

206. Evidently not much use seems to have so far been made by the Corporation of the research facilities available in the country. In fact it has been represented to the Committee in this connection that though many of the processes developed by the Central Fuel Research Institute, Dhanbad have been licensed to foreigners, no Indian organisation, especially in the public sector, has exhibited any interest in commercial exploitation of the same. The representative of the Corporation stated during evidence that they would be utilising the services of the C.F.R.I. and the Mining Research centre in connection with coal mining equipment and washeries etc. As regards exploitation of new processes, he stated that they would make use of such processes when their plants had gone into production. He also agreed that close collaboration between the Research Establishments and the equipment manufacturing organisation like the HEC would lead to increased tempo of development in the Country. *The Committee trust that the Corporation would utilise to the utmost extent possible the facilities available at and the processes developed by the Central Fuel Research Institute and other National Institutes/Laboratories and for this purpose maintain a close liaison with them.*

207. *They also feel that there is a great need to ensure that the processes developed by and the other facilities available in the National Institutes/Laboratories are increasingly made use of by public sector projects. They would therefore recommend that the matter may be looked into by Government and suitable instructions issued in this regard to public undertakings, if need be.*

XII

OTHER MATTERS

A. Marketing

208. So far firm orders have been received by the Corporation from National Coal Development Corporation for only 10 belt conveyors valued at Rs. 11:35 lakhs, besides some coal cutters which are being assembled at the Barakakana workshop of the latter. As regards orders of other items, it is stated that negotiations have been carried out with certain public sector projects like HSL, HEL and some understanding reached. The representative of the Corporation stated during evidence that to the extent they were able to take up orders, they had been canvassing the various parties.

209. *In this connection the Committee understand that the Corporation has been depending mainly on protracted correspondence for ascertaining the requirements of the users. The Committee feel that the detailed character of the information required by the Corporation necessitates personal contacts with the primary users of its products and it could hardly be achieved by protracted correspondence. They would suggest that the Corporation should maintain a close liaison with user units both in public and private sectors, which the representative of the Corporation agreed to do.*

Marketing Organisation.

210. The Committee have been informed that at present sales and manufacturing enquiries are being dealt with in the Corporation by different Departments/Projects and there is no central marketing organisation to operate in the context of the overall policy of the Corporation. No decision has also yet been taken regarding the services to be offered to the customers in the erection, assembly and repair of its products. *Thus, no serious thought appears to have yet been given to the question of setting up a suitable marketing organisation, for the Corporation. This seems all the more surprising as the projects have already gone into partial production and the Corporation would in the near future need a sales organisation with personnel who would have to be trained for the purpose. The Committee would suggest that the question of setting up a suitable marketing and sales organisation for the Corporation may be examined at an early date.*

B. Water Supply Arrangements

211. The Committee are informed that the Bihar Government gave an understanding that they would construct a dam over the river Subarnarekha to supply water to the projects and that the water would be provided at 'no-profit no-loss basis'. Accordingly, a dam is being constructed by them. It is, however, now proposed by the Corporation to take over the dam after its completion at an estimated cost of about Rs. 4.7 crores and the matter is under consideration of the Government.

Taking over of Hatia Dam by Corporation not favoured.

212. Explaining the reasons for proposed taking over of the dam, the representative of the Corporation stated that the intention was to have full control over water supply. The Additional Secy. to the Ministry, however, felt that the Corporation should not take over the dam as it would increase the cost of the projects and moreover there was a clear understanding with the State Government in this matter. *The Committee agree with this view. They feel that services like water supply should normally be rendered by the local authorities, rates for which should be decided in advance. The Committee also expect that the State Government would take all necessary steps to ensure timely supply of adequate water to the projects including the township.*

213. For CMMP, Durgapur, water is being provided by the Durgapur Projects Ltd.—a Company owned by the West Bengal Government. The Corporation with the approval of the Ministry has advanced a loan of Rs. 35 lakhs to this Company for their water supply scheme at 4½% interest, repayable in 20 annual instalments.

Loan given to Durgapur Projects Ltd

214. It is note-worthy that the rate of interest is lower than that paid by the Corporation for the loan taken by it from Government i.e. 5-6%. The grant of this facility was sought to be justified on the grounds that water was being provided at 'no profit-no loss' basis and that if the West Bengal Government had taken the loan directly from Central Government it would have been at 4½% interest. *The Committee do not agree with this view. They feel that the grant of such loans would not appear to be justified from the commercial angle. If it was necessary to advance the loan it should have been given by the Central Government through the State Government and not by the Corporation direct to the Durgapur Projects Ltd.*

C. Labour-Management Relations

215. The Committee note that the labour relations in the Corporation have been none too satisfactory. During the five months period from March to August 1963, there have been 4 cases of strikes/labour unrest: one in March, 2 in

Need for better labour-management relations.

Reasons. April and one in August, 1963. These strikes are stated to have been on the issues of retrenchment of workers, better working hours, overtime, medical facilities, promotion, regularisation of unskilled workers etc.

216. It is necessary for the efficient and economic working of the Corporation that there should be complete understanding between its labour and the management. The Committee hope that the management would take all possible steps to iron out the differences such as there may be between the management and the labour and make room for a friendly and co-operative endeavour in the best interest of the country. The desirability of holding evening classes with a view to impart general education to the workers so that they can understand the problems of the country and of the management, may also be considered.

Need to immediately set up Works Committees and evolve procedure for redress of grievances 217. The Committee are informed that so far no works committees have been set up by the Corporation nor has any procedure for redress of grievances been introduced. This is attributed to there being no stable union of workers and delay in the nomination of their members. In this connection it is stated that there are two workers' Unions—one "Hatia Projects Workers' Union" which is recognised and the other "HEC Employees' Union" which is not recognised. Rival activities between these unions as also within the unions has made it difficult for the Corporation as to whom to recognise and whom to talk to. The representative of the Corporation however stated during evidence that the matter was under reference to the Labour Commissioner and was expected to be sorted out shortly. The Committee trust that Works Committees would soon be set up by the Corporation and be made an effective instrument for the democratic administration of labour matters. A suitable procedure for redress of grievances and resolving disputes should also be immediately laid down.

D. Custody of Stores and fire accident

Custody of Stores. 218. Table below shows the number of cases of thefts in the Stores Depots of the Corporation during the period Sept., 1961 to Oct. 1963:—

Type of Store	No. of cases of thefts	Value/quantity (approx.)
(1) Copper wire (imported)	5	Rs. 40,111
2) Cement	5	Qty. 236 bags.
(3) Levelling instruments	6	Rs. 13,100
(4) Miscellaneous (typewriter, duplicating machine, Cycle Valves, brass bearings etc.)	16	Rs. 8,497

219. Thus, during the two years period from September 1961 to October 1963, there have been 32 cases of thefts involving among others imported copper wires worth Rs. 40,111. It was stated that thefts were possible mainly as stores were kept in the open in a very wide area, though it was barbed with wire fencing. The representative of the Corporation agreed that the security arrangements required tightening up. *The Committee hope that the Corporation would immediately take necessary steps to avoid recurrence of such thefts.*

220. The Committee enquired into the causes of the fire which broke out in one of the storage sheds of the HMB Plant at Ranchi on 29th January, 1964, when equipment which was likely to affect the production programme was damaged. Fire Accident.

221. It has been stated in reply that nearly 100 packages consisting of 36 machine tools, 11 cranes and 7 electrical transformers, distribution boards, etc. valued at about Rs. 45 lakhs, have been damaged as a result of the fire. This is likely to affect the production programme of the plant.* They have, however, impressed on the USSR collaborators the need for early replacement of the damaged equipment and expect that the set-back in the production programme, if any, will be for a short duration. As regards the causes of the fire, it is stated that the police is conducting an investigation and has taken charge of the affected area. Government propose to hold an independent enquiry into the matter.

222. In this connection it may be stated that a fire also broke out in the Hatia storage shed in May, 1963, and machinery worth Rs. 5.84 lakhs was damaged. *The Committee regret that adequate security arrangements for the protection of the costly equipment were not made nor was the adequacy of fire fighting services ensured. They trust that proper precautionary measures, as may be suggested by the Enquiry Committee, would be taken to avoid recurrence of such accidents.*

*At the time of factual verification it has been stated that it will be possible to maintain the production programme of 1964. However, in the meantime if the supply of the transferred equipments is not arranged for, the production programme for 1965 is likely to suffer.

XIII

CONCLUSION

223. *In the setting up of the heavy engineering industry, the Ministry and the Corporation were indeed faced with a stupendous task, as it was for the first time that an industry of this size and magnitude was being established in the country. The planning and execution of the projects called for great talent and organising ability. The Corporation and Government have grappled with this task with courage and determination. Nevertheless the Committee came across several disquieting features which have been dealt with in detail in the Report. The Committee are not unaware that some of the difficulties were inevitable in projects of this magnitude but all the same it should have been possible to avoid some of them. They are conscious of the vital role that the heavy engineering industry has to play in the industrialisation of the country and its future development. The Corporation holds out the hope that its four projects will usher in a new era of industrialisation. The Committee have no doubt that the Government and the Corporation would do their best to bring the plants into full fruition as early as possible.*

NEW DELHI;
March 31, 1964.

Chaitra 11, 1885 (Saka).

ARUN CHANDRA GUHA,
Chairman,
Estimates Committee.

APPENDIX I

(vide para 28)

Statement showing tentative production programmes

Project	Items	Envisaged production											
		1963-64		1964-65		1965-66		1966-67		1967-68		1968-69	
		Qty	Wt. (tons)	Qty	Wt. (tons)	Qty	Wt. (tons)	Qty	Wt. (tons)	Qty	Wt. (tons)	Qty	Wt. (tons)
CMMP	(i) Coal cutters .	1700	..	..	..	20	80	200	600	400	1200	600	1700
	(ii) Loaders .	1300	..	..	..	20	120	50	300	100	600	220	1300
	(iii) Conveyors .	22500	13	669	200	8120	300	10130	600	11400	1300	15900	1800
	(iv) Locomotives	1300	..	..	..	..	..	50	325	100	650	200	1300
	(v) Haulages	3700	..	..	..	20	1250	200	1800	300	2800	400	3700
	(vi) Binders .	1200	..	..	..	..	..	25	1200	25	1200	25	1200
	(vii) Main axial fans .	1000	..	..	..	10	200	40	400	75	480	100	650
	(viii) Booster fans	50	2	1	100	30	250	50	250	50	250	50	250
	(ix) Centrifugal pumps .	1000	40	80	200	400	800	500	1000	500	1000	500	1000
	(x) Sand pumps	550	..	..	..	..	..	200	380	300	550	300	550
	(xi) Boaring rings	30	..	..	..	..	..	10	30	25	30	25	30
	(xii) Cage keys safety hooks etc.	2000	..	..	..	..	..	..	2000	..	1500	..	2000
	(xiii) Spare parts	8670	..	..	..	..	..	..	4000	..	5000	..	8670
TOTAL	Value—Rs. in crores .	45,000	750	10,000	12,880	22,565	12,72	31,050	20,93	45,000	30,00	45,000	30,00

Project	Items	Envisaged Production (tons)						Remarks
		1963-64	1964-65	1965-66				
		2	3	4	5	6		
HMLBP	(i) Coke ovens and bye-product equipment	7700	--	287	900			
	(ii) Blast furnace equipment	5500	..	322	505			
	(iii) Steel melting equipment	7000	..	440	1806			
	(iv) Crushing and grinding equipment	3150	..	300	750			
	(v) Crane equipment	6570	..	707	1574			
	(vi) Rolling mill equipment	34500	..	..	300		
	(vii) Oil Drilling rigs	5500	..	30	447			
	(viii) Heavy mining equipment	880						
	(ix) Press Forging equipment	1360						
	(x) Excavators	4950						

(xi) Spare parts for metallurgical equipment

1080	1800	13914	16218
1810			

(xii) Miscellaneous equipment

80,000	1800	16,000	22,500
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TOTAL

(i) Grey iron foundry

46,600

(ii) Steel iron foundry

88,882

(iii) Non-ferrous iron foundry

700

(iv) Forge shop

32,954

(v) Rough machine shop

64,015

(vi) Machine & heat-treatment shops

21,310

Structurals, non-standard equipment and spare parts.

Production of some nonferrous castings, timber products etc. envisaged.

APPENDIX II

(Vide para 107)

Construction equipment available with various public undertakings surplus to their requirements.

HSL—at Bhilai Steel Plant	Quantity
1. Russian cranes	.. 16
2. Pneumatic Concreter	.. 1
3. Russian Autoloaders	.. 6
4. Water tankers	.. 3
5. Russian Bull-dozers	.. 5
6. Trucks	.. 2
7. Zetor tractors	.. 4
8. Bucker loaders	.. 4
9. Brick making machines	.. 3
10. Mechanised Derrick	.. 1

Ministry of Defence and Ministry of Industry have not indicated any construction equipment with the various public undertakings under their administrative control, surplus to their requirements. Replies are awaited from Ministries of Petroleum and Chemicals, and Irrigation and Power and the Department of Mines and Metals.

APPENDIX III

(vide para 146)

Statement showing costs of Projects as estimated from time to time

(Rs. in crores)

	As estimated by consultants			As estimated by the Corporation in		
	Preliminary reports (1957-58)	D.P.Rs. 1959	1960	1962	1963	
	2	3	4	5	6	
1. Foundry Forge Project :						
upto 1st stage	17.40	29.95	60.60	67.90	..	..
upto 2nd stage	30.00	46.60				
upto 3rd stage	..	61.70 (1962)	..	..	..	100.00 (on basis of DPR for 3rd stage).
2. Heavy Machine Building Project :						
upto 1st stage	18.60	21.85	..	..	..	..
upto 2nd stage	26.68	28.15	48.00	39.30	39.30	39.30

	1	2	3	4	5	6
3. Coal Mining Machinery Projects :						
1st stage		13.20	13.10	..	..	..
upto 2nd stage		..	17.50	35.00	30.20 (on basis of DPR for 2nd stage)	30.20
4. Heavy Machine Tools Project :						
1st stage		..	18.60 (1962)	15.00	28.00 (on basis of DPR)	25.00
5. Common Charges (Ranchi Projects)						
		10.00	12.00
TOTAL		..	125.95	158.60	175.40	206.50

APPENDIX IV

Statement showing the present composition of the Board of Directors

1. Shri T. R. Gupta, Chairman, Heavy Engineering Corporation, Ranchi—Part-time.
2. Shri H. V. Narayana Rao, Director (Construction), Heavy Engineering Corporation, Ranchi—Full-time Director.
3. Major-General E. Habibullah, Director (Recruitment Labour Welfare & Training), Heavy Engineering Corporation, Ranchi—Full-time Director.
4. Shri R. V. Subramanian, Director (Finance), Heavy Engineering Corporation, Ranchi—Full-time Director.
5. Shri B. N. Sinha, Secretary, Department of Industries and Co-operation, Government of Bihar, Patna—Part-time Director.
6. Dr. B. D. Kalelkar, Dy. Director General (Engg.), D.G.T.D., New Delhi—Part-time Director..
7. Shri M. S. Rao, Chairman, Hindustan Steel Ltd., Ranchi—Part-time Director.
8. Shri H. N. Ray, Joint Secretary, Ministry of Finance, New Delhi—Part-time Director.
9. Shri O. N. Misra, Joint Secretary, Department of Heavy Engineering, New Delhi—Part-time Director.

NOTE:—On his appointment as Adviser (Industry & Minerals) in Planning Commission, Government of India, Dr. A. Nagaraja Rao, Chairman, relinquished charge of the Office of Chairman, H.E.C. on 24-2-1964. Shri T. R. Gupta, General Manager (Works) Jay Engineering Works Calcutta and a Director of the H.E.C. has been appointed Chairman on 24-3-1964.

APPENDIX V

Summary of Recommendations/Conclusions

SI. No.	Ref. to para No. of the Report	Summary of Conclusions/Recommendations
1	2	3
1	9	It is regrettable that though Government thought of setting up plants for heavy engineering industry as early as 1955, it took them three to five years to arrive at the decision. The urgency for the plants does not appear to have been fully realised and much precious time had been lost in the preliminaries. The Committee cannot help deprecating the delay in the development of heavy engineering industry in the country, which was rightly assigned the highest priority with tentative targets in the Second Plan.
2	11	Under the present arrangement initial investigation of industrial projects is being done by National Industrial Development Corporation pending the ultimate implementation by other approved agencies. The Committee are not happy over this arrangement and consider that the agency through which the projects are to be executed should be decided well in advance and entrusted with the task from the very beginning. A different agency like the National Industrial Development Corporation processing the work relating to negotiations, agreements etc. may not give the same urgency as the agency which takes it over may have given. In all such cases the proper course would appear to be to entrust the projects to an executing agency. In this case, this could have been done in December, 1957 rather than waiting till May, 1959, i.e. a year and a half later.
3	14	The Committee feel that the time taken at the various stages of finalising the project reports has

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(2)

(3)

been rather long as has been admitted by the representative of the Ministry. Since these initial delays affect the commissioning of the projects and the achievement of production targets set forth in the Plan, it would be desirable if a review of the processes involved in the collection of data, preparation and finalisation of detailed project reports and the time taken therein is made by Government with a view to reduce this time lag to the minimum in future projects.

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Considering the revisions and modifications that had to be carried out in the Detailed Project Reports, working Drawings, contract agreements etc. on account of the upward revision of the initial capacities of the various projects, the Committee are unable to appreciate the contention of the representatives of the Corporation and of the Ministry that there has been no extra expenditure and delays on this account. Besides numerous complexities that have been created due to changes in the schedules of commissioning, cost estimates etc., there is little doubt that if the revised capacities had been planned from the initial stages, various delays and extra expenditure on civil works and other items would have been avoided. It is true that these projects were altogether new in the country and, therefore, called for a cautious approach but this approach does not appear to have been followed subsequently, despite the advice of the Consultants. The Committee cannot help regretting that had the original capacities not been interfered with, these units intended for the first stage would have been fully commissioned by now and would have been in the production stage with the additional advantage of production personnel gaining in practical experience and skill.

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Demand in a developing economy can always be expected to rise. In fact, even with the revised capacities, these plants would meet only a portion of the anticipated requirements during the Fourth and subsequent plans. In all such cases, the wiser course would have been to plan the initial capacities carefully after fully considering the requirements etc. and to execute them before any increase in the capacity was considered. Additional requirements should be met either by expansion

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(2)

(3)

of the existing units after they have been commissioned or by setting up new units. There have been similar other cases in the past, when capacities of projects were revised in the construction stage, resulting in delays in commissioning of projects and extra expenditure, for example in H.E.L., Bhopal and Neyveli Lignite Corporation. The Committee would, therefore, suggest that Government may examine all these cases of revisions to assess the delay in commissioning and the consequent loss to the national economy apart from any infructuous expenditure involved in such revisions. Such a review would reveal many valuable lessons for future planning of projects.

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No definite schedules of construction and commissioning of projects were drawn up initially. There has thus been an element of uncertainty in this regard which might have partly been due to revision of capacities. It is essential for proper planning and execution that definite time schedules of construction and commissioning of projects are prepared as early as possible and are adhered to.

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In many cases civil works have not been completed even according to the revised schedules. Progress in erection of machinery in most of the shops is also lagging behind schedules and is nil in most cases. It has also been noticed that various works had not been commenced according to the schedules. The Committee were, however, assured by the representative of the Corporation that the present schedules would be maintained. They trust that every effort would be made by the Corporation to adhere atleast to these revised time schedules by expediting construction and erection work as much as possible.

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The Committee consider it unfortunate that it should have taken the Government and the Corporation 3½ years in the various stages i.e. preparation of detailed project report, finalising negotiations for purchase of plant and machinery etc. They would recommend that a firm schedule of construction of the project should be drawn up immediately and every effort made to commission the project by the end of the Third Plan period as had been envisaged.

(1)	(2)	(3)
9	27	The Committee note that no Planning Cell to watch the different stages of execution of the projects under the control of the Ministry and to concentrate on their broad technical and economic aspects has been set up by the Ministry so long. They hope that the proposed cell would be organised without any further delay.
10	29	The Committee trust that early action would be taken by the Corporation to draw up firm production programmes for each project in consultation with the users. They would also suggest that these programmes, when finalised, should be published in the Annual Reports of the Corporation.
11	31	There would be a gap of 6 to 7 years between calling for the D.P.Rs. and the commencement of production and it would also take 5 to 8 years for the projects to attain rated capacities from the time of commencement of production. The Committee feel that the gestation period in the case of projects of the Corporation is too long. They hope that every effort would be made by the management to attain production to optimum capacities as early as possible.
12	36	The Committee are not convinced with the explanation given for delay in the installation of machinery. They regret the slow progress in construction of projects and in the installation of plant and machinery, most of which was received as far back as 1961-62. In spite of realising their inability to do the construction work according to schedule the Corporation has not exercised due care in ordering the equipment and synchronising its receipt with the construction work. It is surprising that obvious dangers of damage etc. to the uninstalled machinery which has to be stored were not fully realised by the Management. This was unfortunate as subsequent events proved when heavy losses to the stored equipment were caused by the recent fire. It is also noteworthy in this context, that the period of performance guarantee of the equipment in the case of supplies from U.S.S.R. extends to 18 months from date of shipment. Apparently in many cases, the equipment received from U.S.S.R. will be installed after the guarantee period is over. That the management had to approach the Soviet suppliers to secure guarantee for

- | (1) | (2) | (3) |
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| | | <p>more period of 3 to 4 months after erection is a further proof of lack of care in coordinating the construction work with the arrival of machinery from U.S.S.R. The Committee cannot over-emphasise the need for complete coordination in these matters. They hope that effective measures would be taken to remedy such a state of affairs and to step up the tempo of construction work so as to instal the machinery which is lying idle. Further, the Committee have no doubt that this lesson will be borne in mind while ordering machinery for future projects.</p> |
| 13 | 37 | <p>The Committee hope that the necessary lesson not to place orders for machinery before the receipt of detailed project report, as had been done in the case of FFP, will be drawn by Government to avoid recurrence of such cases in other projects.</p> |
| 14 | 39 | <p>The Committee suggest that suitable instructions may be issued by Government to all public undertakings not to procure machine tools from H.M.T. Bangalore much ahead of requirements.</p> |
| 15 | 40 | <p>The Committee hope that adequate steps would be taken by the Corporation and the Ministry to ensure optimum utilisation of capacity of the projects.</p> |
| 16 | 43 | <p>The Committee fail to understand why there should be any delays in the supply of shipping documents or defects in their preparation and why the Corporation should be penalised for the same. At any rate, such difficulties should have been resolved with the suppliers in the very beginning. Obviously no commercial organisation would allow an expenditure of about Rs. 15 lakhs to be borne by it on this account. They would recommend that the matter should be carefully examined by Government with a view to streamlining the procedure as also to obviate such delays or defects in documents in future. In this connection the possibility may be explored of including a clause in the agreements for reimbursement of losses by the suppliers arising on account of delay in receipt of or defects in shipping documents.</p> |
| 17 | 45 | <p>The Committee feel that the payment of such heavy demurrage charges as well as congestion at the port could have been avoided if the Corpora-</p> |

(1)	(2)	(3)
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tion had kept close liaison with the suppliers and programmed the movement of the consignments accordingly. They trust that immediate steps would now be taken by the Corporation to get the packages lying at the port transported to the project sites and to avoid any undue hold up at the port in future.

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|----|----|--|
| 18 | 47 | The Committee reiterate their earlier recommendation made in para 176 of their 32nd Report (3rd Lok Sabha) on National Coal Development Corporation regarding the setting up of a separate agency for dealing with work relating to customs clearance, transportation etc. of all public undertakings at Calcutta. They hope that such an agency would be set up by Government at an early date. |
| 19 | 48 | It needs no emphasis that production at the projects would involve movement of large quantities of raw materials and finished products which would need special types of wagons, etc. There have been cases in the past when due to shortage of particular type of wagons, the imported equipment had been held up at the Calcutta port. The Committee suggest that the Ministry should ensure that the requirements of the Corporation for line capacity, special types of wagons etc. are finalised and necessary action initiated well in time by the Railway authorities. |
| 20 | 55 | So far little attention has been paid towards developing indigenous sources of supply of raw materials and the auxiliary items required by the Corporation. It is unfortunate that the supply of electric motors and ball bearings etc. was not ensured so as to coincide with the manufacturing programme of the Corporation. In this connection it is pertinent to note that as early as 1957, the U.S.S.R. Team suggested that production of auxiliary items indispensable for completing the equipment of HMBP and CMMP should be secured in good time and planned supplies thereof ensured. The absence of such supplies and any uncertainty about them would now not only saddle the country with heavy foreign exchange expenditure on imports but is also likely to affect utilisation of full capacity of the plants. The Committee regret that the Corporation as well as the Ministry should have taken a complacent view of this important matter. |
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(1)	(2)	(3)
21	56	<p>(i) The estimated value of raw materials and components required from other sources for each project at full production stage is expected to be 52% of the output of CMMP, 45% of HMBP, 36% of FFP and 60% of the HMTP. The need for making concerted efforts to locate and increase the indigenous production of components and raw materials required by the Corporation is evident. It is imperative that the Corporation should aim at ensuring that they are available from indigenous sources in the quickest time possible. The Committee suggest that, with this end in view Government should immediately appoint a Committee of technical experts which may include the representatives of the Corporation, Department of Technical Development and the Ministry to survey the indigenous capacity in this regard and to draw up, in consultation with the various interests concerned, a long term plan for allocating among various producers the responsibility for the manufacture of specified items. Attempts should also be made to standardise the components as far as possible. The representative of the Ministry welcomed the setting up of such a Committee.</p> <p>(ii) The Committee also consider it highly desirable that the Annual Reports of the Corporation should indicate the percentage of imported raw materials and components used in the manufacture of equipment so that the progress made in the utilisation of indigenous raw materials and components is known from year to year.</p>
22	57	<p>No source of supply for castings and forging required by HMBP for its manufacturing programme, till these are available from FFP, has yet been firmly located. The Committee are unhappy at this position and hope that effective steps would be taken to locate the source for the castings on which the machine building programme hinges.</p>
23	60	<p>The Committee would suggest that the Corporation should so streamline its purchasing and procurement procedures that the inventory is not unduly heavy at any time. It is desirable to avoid unnecessary locking of working capital in the inventories and stockpiling of scarce materials which would otherwise become available to other industries.</p>

(1)	(2)	(3)
24	64	<p>The Committee regret that Government selected the sites for the projects without carrying out detailed boring and soil investigations, which were all the more necessary for this heavy engineering industry. Had this been done, it would have saved the extra expenditure of Rs. 1.17 crores and the time of 2 years in further investigations and decisions. Another unsatisfactory aspect of this delay is that the F.F.P. which should have actually been commissioned along with HMBP, if not earlier, would now go into production much after the latter, thereby necessitating imports of castings and forgings for the machinery to be manufactured there. There have been similar cases in the past e.g. HEL, Bhopal and Barauni Refinery where selection of sites has been made on inadequate technical investigations leading to considerable extra expenditure and delays in the completion of projects. The Committee trust that at-least now the Government would be cautious and take adequate steps to guard against location of projects on inadequate soil investigations. In this connection the Committee would also draw attention to para 32 of their 34th Report (3rd Lok Sabha) on Indian Refineries Ltd. wherein they recommended that definite criteria should be laid down by Government for selection of sites for the public undertakings.</p>
25	70	<p>It appears that the whole difficulty regarding land acquisition arose because the Government of India neither indicated the requirement of land (both for projects and townships) in specific terms to the State Governments nor got any clear assurance from them in regard thereto, as has been admitted during evidence. Had this been done, it would have obviated the various delays and heavy extra expenditure. It is evident that there should be clear and specific agreement on such issues in the very beginning as otherwise ambiguities arise which lead to difficulties and high costs. There have also been other cases where the original assurances given by the State Governments have been subsequently changed by them and the grant of free land had to be changed into financial participation of State Governments. In this connection a reference is invited to para 64 of 34th Report of the Estimates Committee (3rd Lok Sabha) on Indian Refineries Ltd. The Committee would recommend that the whole question of land acquisition for public sector projects may be examined</p>

(1)	(2)	(3)
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by Government in a comprehensive manner and broad guiding principles laid down to avoid any similar difficulties in future projects.

26 71 The following other suggestions were also discussed:

- (i) Though the responsibility for rehabilitation of persons displaced by the projects rests primarily with the State Governments, the Corporation should lend full support and help to them in securing decent means of livelihood and in providing suitable jobs, even after training in the projects.
- (ii) The desirability of regulating land transactions in the project areas, so as to curb any speculation in the sale of land and profiteering, may be considered in consultation with the State Governments.

The Committee expect the State Governments to ensure that the rates at which land is made available to the public undertakings and private sector units in the same area are uniform as far as possible.

27 77 The Committee feel that the cost of townships of the Corporation which works out to as much as 21% of the total investment is disproportionately on the high side, as has been admitted by the representative of the Corporation during evidence. It should be realised that the investment on townships which is unproductive, will have a bearing on the cost of the products by way of adding to the depreciation, overheads and interest charges. In fact, based on the number of employees, the average cost of a quarter per employee works out to Rs. 19,000. It is doubtful whether expenditure on houses at such a lavish scale could be incurred from the general point of economy, much less from the commercial viewpoint of the Corporation. It is very essential, that utmost economy is exercised in this regard. With this end in view, the Committee would recommend that the cost of the townships should immediately be reviewed and brought down to the absolute minimum.

(1)	(2)	(3)
28	78	<p>The Committee would also make the following suggestions which should be borne in mind:—</p> <ul style="list-style-type: none"> <li data-bbox="415 314 1001 479">(i) The expenditure on non-residential buildings is estimated at Rs. 2.43 crores. Such heavy expenditures on these buildings are hardly justified and need to be pruned down considerably. <li data-bbox="415 496 1001 739">(ii) At present, the construction of quarters seems to have been taken up for the entire number of personnel required for the Plants at full production stage. The construction should have been phased and spread over a number of years. It should bear some proportion to actual requirements from time to time. <li data-bbox="415 756 1001 869">(iii) The temporary houses should be properly utilised so long as they can last and to that extent the construction of permanent houses could be obviated. <li data-bbox="415 887 1001 965">(iv) The designs of houses may be reconsidered so as to make them simpler and cheaper. <li data-bbox="415 982 1001 1173">(v) The establishment and other expenses are estimated at 6 to 7% of the total investment of Rs. 43 crores. These seem to be on the high side and could perhaps be brought down considerably by increasingly resorting to lump-sum system of contracts.
29	81	<p>The Committee feel that the addition of the heavy costs incurred on townships and other social amenities add to the costs of the projects and tend to affect the economies of the projects. The cost of production of every item goes up. When that item enters into the production process of other Undertakings, the end product bears the cost of two or more townships with the result that it is priced out in the world markets. They would, therefore recommend that the matter may be examined by Government in a comprehensive manner, with a view not only of proper allocation of such an expenditure but also finding out ways and means of reducing it to the absolute minimum.</p>

(1)	(2)	(3)
30	82	<p>The Committee would also make the following suggestions which should be borne in mind:—</p>
		<p>(i) At present considerable expenditure is incurred on the provision of medical and education facilities by undertakings, which should largely be the concern of Employees State Insurance Corporation and the State Governments. It appears that there is also a general tendency among public undertakings to provide these facilities themselves with a view to keep them under their own control rather than approaching the appropriate authorities for the same. It has also been mentioned that certain categories of employees (over Rs. 400) will not be covered by the ESIC. To avoid two agencies providing separate medical facilities to the Employees (i.e. ESIC to employees drawing salary upto Rs. 400 and the undertaking for others), it is suggested that one agency preferably ESIC may provide the entire medical facilities by obtaining suitable contribution from the Undertakings.</p>
		<p>(ii) The desirability of dispersal of houses to adjoining villages so that the cost as well as the servicing might be less and the villages would also be developed i.e. a sort of "satellite towns". The villagers will get a share of the expenditure of the employees and that will give them better economic prospect.</p>
		<p>The representative of the Corporation agreed that it would be a "very sound arrangement" if suitable transport system could be developed and that the suggestion was worth examining.</p>
		<p>(iii) Steps should be taken by undertakings from the beginning to keep the maintenance expenditure on the townships as low as possible and not in any case more than realisation from rent so as to avoid any incidence thereof on cost of production.</p>

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		<p>(iv) The public undertakings do not seem to take full advantage of the financial assistance available for industrial employees under the Subsidised Industrial Housing Scheme. There is need to take full advantage of financial assistance available under the scheme, as is done by private sector industrial units.</p> <p>(v) The employees may be encouraged to build their own houses as is done in Jamshedpur.</p> <p>(vi) The expenditure on townships and other social amenities should be borne out of undertaking's own resources or by borrowings to be ultimately written off from profits and not from the capital account as seems to have been done by the H.E.C.</p>
31	84	<p>Though Government have prescribed the plinth areas and scales of accommodation for different types of quarters in public undertakings, no standard designs and specifications of the houses, amenities to be provided etc. have been laid down. The Committee would recommend that the question of laying down standard designs and specifications of the houses, scale of amenities to be provided, overall ceiling of costs, rent to be recovered etc. may be examined by Government and specific instructions issued in this regard to public undertakings.</p>
32	87-88	<p>In 1962-63 alone, tenders other than the lowest have been accepted in 20 cases. Besides, contracts were awarded without calling for tenders in 61 cases. In most of these cases approval has been given by the Chairman and other officers of the Corporation under the powers delegated to them by the Government. Such cases do not appear to have been placed before the Board for its approval. The Committee feel that the awarding of a large number of contracts in this manner is not proper and is open to criticism. It indicates that the works were not planned in advance and had to be rushed through. Most of these cases, particularly those relating to the townships, could have been avoided by advance planning. The Committee re-</p>

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		commend that the matter may be looked into by Government and proper precautions taken to avoid recurrence of such case in future.
33	90	The Committee feel that it would have been possible to avoid the loss of Rs. 1.06 lakhs which the Corporation suffered due to delay in supply of materials to a contractor by proper planning. They hope that the Corporation has learnt the necessary lesson and would guard against such losses in future.
34	91-92	There have been revisions in the value of a number of contracts due to increase in quantities or extra items. The Committee feel that such a large revision of the contract value vitiates the terms on which tenders are originally called and contracts placed. It appears also that certain changes were due to revision of capacities. It is elementary that before a work is undertaken full data relating thereto should be worked out. They hope that such situation as mentioned above would be avoided in future.
35	94	It seems that the producers could not supply steel at Col. I rates in time as orders had not placed on them well in advanced. This would clearly indicate a certain lack of planning in ordering supplies. The Committee recommend that the Corporation should plan its requirements of steel and other materials well in advance so as to avoid such extra expenditure in future.
36	96	The Committee feel that the terms in the contracts regarding compensation for not giving further work, supply of materials especially the grant of advances to the contractors, are contrary to the principle of open tendering and vitiate the terms on which contracts are placed. The grant of such facilities are also open to public criticism. They would urge that these should not normally be resorted to.
37	99-100	(i) The Committee are not sure if the defects in the Hatia storage shed could not have been avoided. They are also not aware whether cracks have developed in other buildings in the area.

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Though under circumstances or urgency certain unconventionalities may have been inevitable, the Committee trust that the management would take adequate steps to ensure that in future designs of buildings the soil conditions etc. will be borne in mind.

(ii) The Committee have observed that these defects have come in for criticism in the local papers. In such cases, earliest opportunity should be taken to clarify the position through the Public Relations Officer of the Corporation.

38 102 The Committee feel that it would be desirable if on the basis of experience gained, standard schedule of rates are laid down, by Government on a zonal basis for guidance of public undertakings. The representative of the Ministry agreed that standard schedules would be beneficial and helpful to the undertakings.

39 105 The Committee regret that the Corporation went in for acquiring construction equipment estimated at Rs. 2·8 crores when it was stipulated in the contracts that the contractors would bring their own equipment. In fact the contracts are normally awarded on the basis that the contractors have all the necessary equipment, unless otherwise specified in the agreements. The hiring of costly equipment at uneconomic rates tantamounts to giving an unintended benefit to the contractors. The Committee hope that public undertakings would in future ensure that the contractors have the necessary equipment to undertake the work. The Committee also believe that the Corporation would take necessary steps to make this "venture" an economical proposition and ensure that atleast the running, maintenance and depreciation charges are recovered from the contractors.

40 107 The Committee regret that the question of getting construction equipment from undertakings which have been completed, has not been carefully gone into either by the Corporation or by the Ministry before sanctioning the imports, with the result that considerable avoidable ex-

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penditure in foreign exchange seems to have been incurred. They recommend that the present arrangements in this regard may be reviewed by Government with a view to avoiding any import of construction equipment that may be available with other projects in the country.

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Considering the needs of a developing economy and increasing tempo of construction work in the public sector as well as difficulty of getting suitable contractors, the Committee are of the opinion that there is an imperative need to build up strong organisations in the public sector for undertaking construction and erection work. The setting up of such organisations will have the following advantages:—

- (i) The costly construction equipment which is at present purchased by the undertakings for hiring out to the contractors (often at uneconomic rates) and is generally disposed of after completion of works, will be pooled and fully utilised thereafter, resulting in considerable savings.
- (ii) The large engineering staff which is now engaged by public undertakings for supervision and other work during construction period will not be necessary, thus saving considerable sums of money.
- (iii) A body of experienced engineering staff will be built up by such organisations for undertaking similar works in the public sector.
- (iv) The Management of Public Undertakings will be left to concentrate on matters relating to production from the very beginning.

The Committee recommend that the matter may be examined by Government with a view to organising such agencies in the public sector. In this context the strengthening of the two existing organisations viz., National Projects Construction Corporation and National Buildings Construction Corporation for undertaking such works may also be considered by Government.

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The organisation of drawing and design units for civil engineering, in various public undertakings is a very desirable development and should

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be encouraged. Government should, however, ensure coordination between these organisations and full utilisation of their expertise. At a later stage they may also consider pooling these agencies with a view to developing an independent strong central consultancy organisation for which there is a great need in the country. In this connection the Committee would also invite attention to para. 269 of their 35th Report (Third Lok Sabha) on Heavy Electricals Ltd. wherein they have stressed the need for such an organisation.

43 115 The consultancy charges work out to about 10 per cent of the total capital on the projects which appears to be on the high side.

44 119 The Committee realise the difficulties in securing sufficient number of suitably qualified Indian personnel for the projects of the Corporation. They, however, feel that the present number of foreign specialists, especially in the cost of FFP, on which an expenditure of about Rs. 10 crores is likely to be incurred appears to be on the high side and the period of their stay of 8 years too long. They would suggest that the requirements for foreign specialists may be reviewed by the Corporation with a view to keeping them to the minimum and obtaining maximum results from them by a well-planned replacement by Indian counterparts. For this purpose, it might perhaps be advantageous if the Indians are put incharge of the sections as far as possible while the foreign technicians are entrusted mainly with the job of guiding them. The Committee feel that in this way Indians might be able to acquire the requisite experience in much shorter time and gain the necessary confidence.

45 122 The Committee feel that it would be desirable if model terms for various types of agreements e.g., for supply of plant and machinery, consultancy activity etc. are laid down by Government for the guidance of Public Undertakings with a view to bringing about uniformity as also to secure better terms while negotiating with foreign collaborators. In this connection the Committee would also invite attention to para 86 of their 32 Report (3rd Lok Sabha) on National Coal Deve-

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- lopment Corporation wherein they have recommended the setting of a special cell by the Government to deal with all foreign agreements.
- 46 123-24 The Committee are not satisfied with the explanation given for entering into separate contracts with consultants for organisation manuals at a cost of Rs. 27.24 lakhs. They feel that there is a general tendency among various public undertakings to depend on consultants for every detail. This appears to be entirely due to a "habit of mind and to a lack of national self-confidence". They recommend that such a tendency should be curbed by Government. In this connection the Committee would also invite attention to para 79 of their 32nd Report (3rd Lok Sabha) on National Coal Development Corporation wherein they have recommended the laying down by Government of certain principles to guide the nature and extent of foreign collaboration in a project.
- 47 128 It appears that no serious thought has yet been given by Government towards attaining self-sufficiency in the machinery required for steel plants. The steps so far taken have been inadequate resulting in dependence on heavy imports. The Committee recommend that the proposed studies should be undertaken forthwith and a specially worked out plan for manufacture of heavy equipment and machinery required to support the contemplated industrial growth drawn up at an early date.
- 48 129 The Committee would also make the following suggestions:
- (i) Out of 1.05 lakhs tons of mechanical equipment required for a million ton steel plant, the HMBP is at present designed to produce only 70,000 tons and the remaining 35,000 tons (i.e., mechanical handling equipment, electrical equipment compressors boilers, instruments etc.) are to be obtained from outside sources. First priority should be given to the manufacture of such equipment. In fact the Russian Team in 1957 suggested that special consideration should be given to the

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establishing of plants for production of such equipment as their production at HMBP was not considered advisable.

- (ii) The nearness to sources of raw materials, consuming centres as well as soil conditions should be taken into account while deciding the location of new plant centres.
- (iii) Any further increase in size of Ranchi complex, without allowing time to consolidate, might not be a step in the right direction.
- (iv) Due consideration should be given to the economics of scale while deciding the setting up of further units. In this connection it has been suggested to the Committee that it might be desirable to set up a number of small units designed to fill the existing gaps in the equipment manufacturing spectrum. In fact the U.K. Heavy Engineering Mission and the Jehangir Gandhi Committee (1957) also recommended such an approach as these would permit (a) a greater industrial base (b) earlier production and return and (c) dispersal and availability of skilled persons. But Government decided that it would be desirable to concentrate on a few large scale units.

In this context it is noteworthy that the pattern in other countries appears to be towards specialised units. Even in USSR where the economic system facilitates centralisation, the trend appears to be distinctly away from multi-purpose engineering units doing jobbing work towards specialised units each concentrating on one segment of the total task of manufacturing heavy equipment. It is stated that equipment for Bhilai was supplied by as many as 400 different units. In Poland the mining machinery is produced by 17 units, each specialising in a different type of equipment.

The above suggestions may be borne in mind. The Committee have no doubt that the pattern of development in other countries would also be

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		gone into by Government before arriving at the decision.
49	131	The Committee feel that the setting up of the Bokaro steel plant is of crucial importance to the future of the country. They hope that after a firm assessment of the requirements has been made, the Corporation would make all possible endeavours to produce the maximum equipment of latest type required for this plant. They also trust that whatever equipped is produced by the Corporation would compare favourably both in price and quality with the imported equipment.
50	133	It would appear that even after about a year of Government decision, the preliminaries of the 2nd coal mining machinery project have not yet been determined. In this context it is pertinent to note that as early as 1957 the USSR Team recommended the setting up of additional plants as also undertaking manufacture of some of the items in other units. The Committee trust that atleast now the Government and the Corporation would take urgent steps for the establishment of the project.
51	134	The Committee suggest that the desirability of setting up of separate factories for screens, crushers and pulverisers may be taken into account while deciding the capacity and pattern of production of the second coal mining unit, which the representative of the Ministry agreed to do.
52	136	The Committee feel that in view of the nature of the industry and the long gestation period involved, it might be necessary to vary the existing pattern of financing Government Companies (i.e., 50 per cent equity capital and 50 per cent loan capital) to some extent. They hope that Government would examine the matter carefully and arrive at a suitable decision.
53	141	The Committee feel that all the projects appear to be over-capitalised and their investment-output ratio is on the low side. It is particularly disappointing in the case of H.M.T.P. In the case of HMBP and FFP, the low ratio seems to be due to

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inherent diseconomics of covering a wide manufacturing range relatively thinly. A number of highly expensive special purpose machines appear to have been added to take care of this range but yielding only marginal increase in the value of total output. A case in point is the "6000 tons forge press" which has been decided to be installed at F.F.P. at a cost of Rs. 6.3 crores. It is capable of producing 30,000 tons of forgings a year but at present it is expected to be worked to meet requirements of about 6,000 tons i.e., one fifth of the capacity

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The envisaged gross profit of Rs. 19 crores (before taxation & interest) works out to a return of 7.6 per cent on the total investment of Rs. 249 crores on the projects. The Committee feel that the profitability of the projects is low and it may be many years before the Corporation, is able to yield any return on the investment. In fact, the representative of the Ministry stated during evidence that it would take about 7 years for the Corporation to break-even and another about 4 to 5 years to make any net profits. The Committee regret that due importance has not been given to the technical and economic feasibility of the projects initially. It is well-known that higher capital investment increases the costs of the products and adversely affects the competitive position of the undertaking. The Committee recommend that this aspect should be carefully gone into by Government before sanctioning any project in future.

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The Committee would also recommend that the Corporation should take all possible steps to improve the turnover and the profitability of the projects. One possibility is taking on outside work to utilise idle equipment capacity as fully as possible. Secondly, when in course of time it becomes possible to narrow the range of production by opting for greater specialisation, it may be possible to get higher levels of output by more continuous batch production than will now be possible. The representative of the Corporation assured the Committee that they would give serious thought to this matter and endeavour to improve the position.

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| 56 | 145 | The Committee would recommend that all public undertakings should maintain indices or ratios in respect of the labour and personnel employed, machinery installed, materials consumed, space occupied and other variable and fixed expenses, as is the practice in other countries with a view to secure proper utilisation of men and machinery, etc. |
| 57 | 150 | The Committee fail to understand why costs of obvious items like consultancy fees, customs duty, port trust charges, foreign experts, training of Indian engineers, enabling works, sand washing plant, railway siding outside plant area, etc., which amount to Rs. 65 crores, should have not been provided for in the D.P.R. estimates. This is especially so when the Indian experts are associated with the preparation of the detailed project reports at every stage. Time and again, the Committee have emphasised that the total commitment on such projects should be prepared as realistically as possible in the beginning and should be available to Government and to Parliament before a project is approved. It is not correct to undertake a project on the basis of incomplete estimates and to subsequently increase the outlay thereon, which has in any case to be agreed to by Government—a feature which is fairly common to most of the projects and which has to be discountenanced. The Committee recommend that the final estimates of the various projects be immediately prepared and placed before Parliament with proper explanation for variations between the D.P.R. estimates and the anticipated cost. |
| 58 | 151 | The Committee regret to observe that in spite of a written enquiry from them, neither the Ministry nor the Corporation could furnish information regarding the capital cost of establishing comparable projects elsewhere. The Committee consider the collection of such data very necessary. In the absence of such data, it is difficult to determine the reasonableness of estimates given by the consultants. The Committee hope that Government would take suitable steps to gather such basic information for future guidance. |
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59	153-54	<p>The Corporation has not yet established a Cost Reduction Unit, as suggested in the Third Five Year Plan. The Committee regret that such an important suggestion aimed at economy could not have been appreciated by the Corporation till now. There appears to be a considerable scope for saving in construction costs of the projects especially in civil construction works and establishment costs which amount to over Rs. 150 crores i.e., 60 per cent of the total cost of Rs. 249 crores on the projects and townships. The Committee would recommend that a Cost Reduction Unit should immediately be set up by the Corporation and made an effective instrument of reducing the construction costs. In this connection they would also invite attention to the various other suggestions made in the Planning Commission's Memorandum on 'Reduction in cost of major Construction Projects'.</p>
60	155	<p>So far the Corporation has yet prepared or even started preparing any completion reports in regard to its projects. This is another instance where an important suggestion made in the Plan and aimed at economy and efficiency in working, has been overlooked both by the Corporation and the Ministry. The Committee expect that the valuable suggestions contained in the Plans are taken due note of and implemented by Public Undertakings without any delay. It is high time that Government issued specific instructions to public undertakings in the matter.</p>
61	158	<p>From the terms and conditions of appointment of the Chairman and the other two re-employed full-time Directors, it is observed that while the Chairman was given extension of service for three years, the Director (RLWT) was re-employed for three years and Director (Construction) for two years. The letters of their appointment contain no provision for earlier termination of their services on any ground. While the Committee agree that appointment to these top posts in public undertakings should be made for sufficiently long periods, they consider that there should always be provision for earlier termination of services by giving three months' notice on specified circum-</p>

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		stances. They regret that such obvious conditions were not included in the terms of appointment and recommend that these conditions should be incorporated in all future cases. In this connection the Committee would also invite a reference to para 64 of their 28th Report (Third Lok Sabha) on Indian Oil Company Ltd.
62	160	The present provisions of Article 93 of the Articles of Association of the Corporation, which allow the Government to delegate the powers exercisable by the Board to various officers of the Corporation, appear to be contrary to Government decision VII on the Krishna Menon Committee Report, and should be changed suitably.
63	162	The Committee feel that it would be desirable if a Memorandum of Instructions setting forth clearly the objectives, targets, time schedules, etc. is issued by Government at the outset and thereafter periodically so that the Boards are clear about their responsibilities and their plans, programmes and performance could be watched properly.
64	164	The Committee feel that the setting up and the operation of four big projects involve responsibilities which might be difficult for a single centralised organisation to manage efficiently. They, therefore, consider that it would be desirable to delegate the powers at the project level as much as possible, leaving the Central Organisation i.e., the Corporation to deal with policy questions, planning, co-ordination, provision of finance, manpower, staff services etc., as has recently been decided in the case of H.S.L. Both the representatives of Corporation and the Ministry agreed with this and undertook to reorganise the set-up as soon as the production stage was reached.
65	169	The Committee feel that the present staff in the Corporation, especially in the Construction Department, is on the high side. They would recommend that a comprehensive review of the staff requirements may be undertaken by the management with a view to reducing the existing strength, bringing the various posts on some rational basis and doing away with the system of providing helpers to skilled workers etc.

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66	173	The Committee feel concerned at the excessive man-power which besets many of the public undertakings today. They hope that the Corporation would endeavour from the beginning to (i) restrict the number of administrative and supervisory staff; (ii) increase the productivity of direct workers by proper training; and (iii) avoid any over-staffing particularly at the initial stages.
67	174	The Committee would suggest that a clear distinction should be made from the beginning between the permanent work force of the units and those taken on for training with a view to transfer later to other units so that there is no difficulty in their mobility at a later stage.
68	177	The present policy of the Corporation seems to be to recruit degree-holders as probationers for manning the supervisory posts of Foremen etc. The Committee feel that degree-holders, who are scarce and more expensive should be utilised for design and technology and that diploma and trade certificate-holders should be taken and trained for supervisory posts of Foremen etc. They hope that the management would suitably modify their policy with a view to avoid taking men of higher qualifications for jobs which could be manned by persons of lesser qualifications.
69	178	The Corporation has not yet laid down job specifications for various categories of posts and the same are stated to be in the process of being worked out. The Committee are surprised that though the Corporation has been in existence for five years, job specification which is a pre-requisite for recruitment of right type of personnel, training, research, merit rating etc. should have not been laid down till now. They hope that the management would take immediate steps to lay down those specifications.
70	179	The Committee observe that the number of Scheduled Castes and Scheduled Tribes in the employ of the Corporation is less than that prescribed by the Government of India. They hope that the management would give more attention to this matter and recruit more candidates belonging to Scheduled Castes/Scheduled Tribes.

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71	181	<p>The Committee regret that promotions should have been made by the Corporation prematurely and without there being clear vacancies. They are constrained to observe that the Corporation could not so far evolve a clear promotion policy and has resorted to practices which invite criticism. They trust that at least now the management would lay down a suitable promotion policy. In this connection they would commend the introduction of system of cadre schemes, on the lines adopted by the National Coal Development Corporation, as has been agreed to.</p>
72	183	<p>The Committee are surprised that the Corporation should have not by now framed suitable rules regulating the conditions of service of its employees. They hope that immediate steps would be taken by the management towards this end. The representative of the Corporation assured that this would be done.</p>
73	184	<p>The following other suggestions relating to personnel matters may also be considered :—</p> <ul style="list-style-type: none"><li data-bbox="444 933 1037 1159">(i) At present recruitment programme is stated to be planned on the basis of requisitions received from projects/divisions from time to time. There is need to assess the requirements of staff on a long-term basis or at least on an annual basis and plan recruitment programme well in advance.<li data-bbox="444 1177 1037 1289">(ii) The need to develop a well-organised Personnel Department in the Corporation with specified powers and functions.<li data-bbox="444 1298 1037 1489">(iii) At present it takes the Corporation between 5 to 8 months to make recruitment after advertisement of posts. There is need to reduce this time lag. The representative of the Corporation stated that they were themselves “unhappy” about it.<li data-bbox="444 1498 1037 1612">(iv) The need to arrest drift of personnel. During the last 3 years, 152 technical/managerial personnel are stated to have left the Corporation.

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(v) At present there are as many as 50 different scales of pay in the Corporation. It is desirable to rationalise scales of pay attached to various posts in the Corporation and base them on work studies or job specifications.

(vi) The need to maintain statistics of absenteeism in the projects.

(vii) At present, there are 126 deputationists in the employ of the Corporation. It is desirable to progressively reduce dependence on deputationists, by training the Corporation's own men in commercial accounting etc.

(viii) The need to lay down performance standards for various categories of production staff.

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The Committee note that it was only in 1961 that a programme for foreign training and a scheme for setting up a Central Training Institute at Ranchi was formulated and approved by the Government, i.e. more than three years after the decision to set up the projects was taken. No Committee was appointed to draw up the training programme. Evidently the importance and the urgency of drawing up a proper training programme/scheme for the projects does not seem to have been realised by Government and the Corporation. What is more surprising is that the Corporation has not gone through the Report of the Jehangir Ghandy Committee—one of the reports which formed the basis of setting up the projects and which also stressed the importance of the training. The Committee cannot but deplore the delay of over three years in formulating the training programme and the manner in which such an important matter has been dealt with both by the Corporation and the Government.

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The Committee regret that there should have been delays and shortfalls in the implementation of the foreign training programme to such a great

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extent. They would recommend that the requirements for foreign training be assessed anew and a well-planned programme drawn up therefor and adhered to.

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No serious thought has yet been given regarding making adequate arrangements for the training of various cadres required for the projects. The Committee attach a great importance to adequate arrangements being made to the training of various categories of personnel required for manning the projects. The progress and ultimate success of the projects depend a great deal on the availability of suitably trained men. It needs no emphasis that it takes time to train a worker.

The Committee feel that it is not too late even if at this stage a Committee is appointed on the lines suggested by Jehangir Ghandy Committee, to assess the training requirements and evolve a suitable planned programme of training for the Corporation. A number of suggestions have been made in the Reports of the U.S.S.R. Team and the U.K. Heavy Engineering Mission in regard to training which could also be considered by that Committee. The Committee would, therefore, recommend the immediate setting up of a Committee for the purpose.

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It appears that the Corporation has not specified the training requirements in respect of the trainees deputed to foreign countries and other establishments in India. This is a pre-requisite for any training programme to be effective. The Committee would recommend that the Corporation should evolve manuals of training in consultation with the foreign collaborators for the use both of the trainee and the trainer. In addition, there should be at least a quarterly report on the performance of the trainees from the units to which they are posted by the Corporation, indicating the progress made in different operations/maintenance schedules.

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The following other suggestions may also be carefully considered:—

- (i) The need to introduce a proper system of induction of newly recruited employees. It has been stated that a

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system of induction was started but it could not be implemented successfully.

- (ii) It should be ensured that the trainees at Ranchi are assigned adequate responsibilities to keep them engaged for the whole day.
- (iii) The need to have a scheme for training of supervisory and middle grade management personnel. In this connection it has been agreed to take advantage of the Management Training Institute of HSL at Ranchi.
- (iv) It has been suggested to the Committee by an eminent industrialist that adequate number of low level supervisors should be recruited from foreign countries for training Indian personnel in this country. The representatives of the Corporation and the Ministry undertook to examine this.
- (v) The feasibility of some payment being made by the collaborators to the Indian trainees deputed abroad, after some time for the value of the products produced by their labour, as has been indicated by M/s Schiessaktengesellschaft of West Germany in their preliminary offer (1955) on HMT. The representative of the Corporation agreed that the suggestion was worth examining.

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The Committee are constrained to observe that the urgency for a proper design and research organisation for the industry does not appear to have been sufficiently realised. Early standardisation of equipment, in close consultation with the users, seems necessary both for evolving original designs in the country and arranging technological assistance from various sources as no single source is likely to prove adequate to cover HEC's manufacturing range. In fact for CMMP, the Corporation has already entered into technical collaboration

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with a British firm for making a particular kind of coal cutter which is suitable for use in Indian mines. The Committee hope that Government would immediately take suitable steps to expedite the submission of the Thacker Committee Report and thereafter to set up the Institute. It may also be necessary to clearly demarcate the functions as between the Institute which would be an autonomous body and the Corporation's Design Bureaus so as to avoid any overlapping of functions as between them and thereby build up a design and research organisation for the industry on sound lines.

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The following other suggestions may also be borne in mind:

- (i) The need for a special unit or a cell in the Corporation charged with the sole function of maintaining liaison with the users on problems of design and research. There are innumerable fields in which the Corporation could work closely with users with the objects of improvement in design, avoidance of premature failure, suitability of the equipment for the service conditions met with etc. In technically advanced countries, there seems to be an extensive exchange of opinion, suggestions and ideas between the manufacturers and users at professional gatherings and elsewhere. In fact the users like HSL, NCDC etc. would be the "shop windows" for overseas buyers of products of the Corporation in the years to come.
- (ii) The need for a special cell or unit to translate into English technical literature published in other languages and thereby help in the development of new designs. The necessity for such a translation has been stressed by the Indian Productivity Team in their Report (1961 on machine building industry in USSR and Czechoslovakia.) The representative of the Corporation stated that they have set up a nucleus

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		translation bureau and would strengthen it.
81	206-207	<p>(i) Not much use seems to have so far been made by the Corporation of the research facilities available in the country. The Committee trust that the Corporation would utilise to the utmost extent possible the facilities available at and the processes developed by the Central Fuel Research Institute and other National Institutes/Laboratories and for this purpose maintain a close liasion with them.</p> <p>(ii) They also feel that there is a great need to ensure that the processes developed by and the other facilities available in the National Institutes/Laboratories are increasingly made use of by public sector projects. They would therefore recommend that the matter may be looked into by Government and suitable instructions issued in this regard to public undertakings, if need be.</p>
82	209	<p>The Corporation has been depending mainly on protracted correspondence for ascertaining the requirements of the users. The Committee feel that the detailed character of the information required by the Corporation necessitates personal contacts with the primary users of its products and it could hardly be achieved by protracted correspondence. They would suggest that the Corporation should maintain a close liasion with user units both in public and private sectors, which the representative of the Corporation agreed to do.</p>
83	210	<p>No serious thought appears to have yet been given to the question of setting up a suitable marketing organisation for the Corporation. This seems all the more surprising as the projects have already gone into partial production and the Corporation would in the near future need a sales organisation with personnel who would have to be trained for the purpose. The Committee would suggest that the question of setting up a suitable marketing and sales organisation for the Corporation may be examined at an early date.</p>

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84	212	<p>The Committee agree with the view expressed by the representative of the Ministry that the Corporation should not take over the Hatia Dam as it would increase the cost of the projects and moreover there was a clear understanding with the State Government in this matter. They feel that services like water supply should normally be rendered by the local authorities, rates for which should be decided in advance. The Committee also expect that the State Government would take all necessary steps to ensure timely supply of adequate water to the projects including the township.</p>
85	214	<p>The Committee feel that the grant of a loan of Rs. 35 lakhs by the Corporation to the Durgapur Projects Ltd., at a rate of interest lower than that paid by it for the loan taken from Government would not appear to be justified from the commercial angle. If it was necessary to advance the loan it should have been given by the Central Government through the State Government and not by the Corporation direct to the Durgapur Projects Ltd.</p>
86	215-216	<p>The Committee note that the labour relations in the Corporation have been none too satisfactory. It is necessary for the efficient and economic working of the Corporation that there should be complete understanding between its labour and the management. The Committee hope that the management would take all possible steps to iron out the differences such as there may be between the management and the labour and make room for a friendly and co-operative endeavour in the best interest of the country. The desirability of holding evening classes with a view to impart general education to the workers so that they can understand the problems of the country and of the management may also be considered.</p>
87	217	<p>So far no Works Committees have been set up by the Corporation nor has any procedure for redress of grievances been introduced. The Committee trust that Works Committees would soon be set up by the Corporation and be made an effective instrument for the democratic administration of labour matters. A suitable procedure for redress of grievances and resolving disputes should also be immediately laid down.</p>

(1)	(2)	(3)
88	219	The Committee hope that the Corporation would immediately take necessary steps to tighten up the security arrangements so as to avoid recurrence of thefts.
89	222	The Committee regret that adequate security arrangements for the protection of the costly equipment were not made nor was the adequacy of fire fighting services ensured. They trust that proper precautionary measures, as may be suggested by the Enquiry Committee, would be taken to avoid recurrence of such accidents.
90	223	The Committee are not unaware that some of the difficulties were inevitable in projects of this magnitude but all the same it should have been possible to avoid some of them. They are conscious of the vital role that the heavy engineering industry has to play in the industrialisation of the country and its future development. The Corporation holds out the hope that its four projects will usher in a new era of industrialisation. The Committee have no doubt that the Government and the Corporation would do their best to bring the plants into full fruition as early as possible.

APPENDIX VI

Analysis of Recommendations contained in the Report CLASSIFICATION OF RECOMMENDATIONS.

A. Recommendations for improving the organisation and working:

Sl. Nos. 7, 8, 10, 11, 12, 15, 20, 21, 22, 55, 60, 61, 62, 64, 66, 69, 71, 72, 73, 75, 76, 77, 79, 80, 81, 82, 83, 86, 87, 88 and 89.

B. Recommendations for future guidance relating to Project Reports, selection of sites, land acquisition, townships, entering into Agreements/Contracts, etc.:

Sl. Nos. 2, 3, 4, 5, 6, 13, 24, 25, 29, 30, 31, 38, 40, 41, 42, 45, 46, 54, 58, 63.

C. Recommendations for effecting economy:

Sl. Nos. 16, 17, 23, 27, 28, 39, 44, 59, and 65.

D. Miscellaneous:

Sl. Nos. 1, 9, 14, 18, 19, 26, 32, 33, 34, 35, 36, 37, 43, 47, 48, 49, 50, 51, 52, 53, 56, 57, 67, 68, 70, 74, 84, 85, 90.

II. Analysis of the recommendations directed towards economy:

S. No.	No. as per summary of recommendations	Particulars
1.	16	For avoiding delays in receipt of or defects in shipping documents.
2.	17	For avoiding hold-up of imported machinery at the Calcutta port.
3	23	For avoiding high inventory.
4	27-28	For reviewing the cost of townships and reducing the same.
5	39	For making the supply of construction equipment to contractors an economical proposition.
6	44	For reviewing requirement of foreign experts.
7	59	For establishing a Cost Reduction Unit.
8	65	For reviewing the staff requirements.

