C.P.U. No. 201

COMMITTEE ON PUBLIC UNDERTAKINGS (1971-72)

(FIFTH LOK SABHA)

EIGHTEENTH REPORT

HEAVY ENGINEERING CORPORATION LIMITED
Ministry of Steel and Mines
(Department of Steel)

LOK SABHA SECRETARIAT

NEW DELHI

April, 1972/Vaisakha, 1894 (S)

Price : Rs. 4·90

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Eighteenth Report of the Committee on Public Undertakings (1971-72) on Heavy Engineering Corporation Ltd.

Page	Para	Line	For	Read
9	2.13	5	Peacemeal	Piecemeal
13	3.14	6	renumeration	remuneration
15	4.1	In Col. 10 of the Table against the item Forge Shop	for 9.45	read 93.45
15	4.1		In item 4 of the table After Rough Machine read shop	
15	4.1		Below item 5 of the table read "B. Heavy Machine Building Plant"	
16	4.1	6	Delete the item 'B. Heavy Machine Building Plant'	
20	4.8	6	Rought	Rough
30	5.11	16	After 'down'	read 'by'
32	5.22	12	Plant	Plan
52	6.50	6	After 'fully' read 'aware'	
57			In Col. 2 of the Table against the year 1968 under Heavy Machine Building Plant	
			1881.66	1801.66
57			Against the year 1969	
			2612.05	2612.85
60	6.87	3	State	stated
60	6.87	4	After 'main'	read 'reason'
64	-	5	shuold	should
70	6.121	1	as	an
75	6.151	3	20,102.94 M. tons	20,192.94 M. tons
77	6.158	7	got	get
82	6.184	9	or	on
86	6.207	4	After 'was not'	read 'for'
89	-	25	After 'functioning' read 'of'	
91	-	5	reclamers	reclaimers
96	-	-	Add the following first line of the recommendation:- "6.239 The Committee find that the five anciliary units constructed at the"	
107	-	3	stablished	stabilised
110	6.300	8	over	our

Page	Para	Line	For	Read
115	6.323	7 & 8	during the last two years viz. 1967-70 and 1960-69	during the two years viz. 1967-68 and 1968-69
122	6.345	5	national	rational
129	-	1	intoduce	introduce
144	8.27	5	detectng	dectecting
178	-	6	structures	strictures
178	10.35	7	and	in
179	11.1	1	out	cut
180	11.12	5 & 6	accommodated	accommodate
186	12.26	1	nct	note
191		In the line below Appendix-I	Page 17	Page 8
193		In the line below Appendix II	Page 11	Page 58
195		In the line below Appendix III	Page 123	Page 60
198		In the line below Appendix IV	Page 214	Page 100
200		In the line below Appendix V	Page 281	Page 131
205		In the 2nd line below Appendix VI	Reports	Report
205	3.9	1	recommended	recommend
206	-	1	recommended	recommend
212	-	2	team to	team of
212	-	11	law	low
213	6.134	8	recommended	recommend
214	6.161	2	Rs. 286.08	Rs.286.63
214	6.161	16	After 'due to'	read 'lack of'
218	6.239	1	fine	five
218	6.259	6	to that	so that
226	-	9	fell	feel
231	-	4	After General Managers	read 'on the'
232	-	24	After the words 'in the matter'	read 'of'
233	10.35	13	After the word 'it'	read 'was'

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COMMITTEE ON PUBLIC UNDERTAKINGS
(1971-72)

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2. Shri K. Baladhandayutham.
3. Shri Dinen Bhattacharya.
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14. Shri Dahyabhai V. Patel.
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Shri Avtar Singh Rikhy—*Joint Secretary.*

Shri M. A. Soundararajan—*Deputy Secretary.*

Shri M. N. Kaul—*Under Secretary.*

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*Elected w.e.f. 11-8-1971 in the vacancy caused on the resignation of Dr. V. K. R. Varadaraja Rao, M. P. on 29-7-1971.

**Ceased to be member of the Committee with effect from 3-4-1972 consequent on retirement from Rajya Sabha.

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(1971-72)

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3. Shri K. Baladhandayutham.
4. Shri Dinen Bhattacharya.
5. Smt. Subhadra Joshi
6. Shri Syed Ahmad.
7. Shri Dahyabhai V. Patel.

INTRODUCTION

I, the Chairman, Committee on Public Undertakings having been authorised by the Committee to present the Report on their behalf, present this Eighteenth Report on Heavy Engineering Corporation Limited.

2. The Report of the Committee is based on the comprehensive appraisal done by the Comptroller and Auditor General of India, as contained in the Central Government Audit Report (Commercial), 1970—Part VII and also on an examination in depth of the working of Heavy Engineering Corporation up to the year ending 31st March, 1971.

3. The examination of the Heavy Engineering Corporation Ltd. was taken up initially by the Committee on Public Undertakings (1970-71). The Committee on Public Undertakings (1971-72) took the evidence of the representatives of the Heavy Engineering Corporation Ltd. on the 12th November, 1971 and the Ministry of Steel and Mines (Department of Steel) on the 17th and 18th November, 1971.

4. The Committee on Public Undertakings considered and adopted the Report at their sitting held on the 20th April, 1972.

5. The Committee wish to express their thanks to the Ministry of Steel and Mines (Department of Steel) and the Heavy Engineering Corporation Ltd. for placing before them the material and information they wanted in connection with the examination of Heavy Engineering Corporation Ltd. They wish to thank in particular the representatives of the Ministry and the Corporation who gave their evidence and placed their considered views before the Committee.

6. The Committee also place on record their appreciation of the assistance rendered to them by the Comptroller and Auditor General of India in connection with the examination of Audit paragraphs relating to Heavy Engineering Corporation Limited.

NEW DELHI;
April 26, 1972
Vaisakha 6, 1894 (*S*).

M. B. RANA,
Chairman,
Committee on Public Undertakings.

1

INTRODUCTORY

(A) Historical Background and Objects and Functions of Heavy Engineering Corporation Ltd.

1.1. The Heavy Engineering Corporation Limited, Ranchi was incorporated on 31st December, 1958 under the Companies Act, 1956 in the State of Bihar with its registered office at Ranchi. The Corporation was set up to develop the manufacture of heavy capital equipments in the country through (a) Heavy Machine Building Plant (HMBP), (b) Foundry Forge Plant (FFP) and (c) A Coal Mining Machinery Plant (CMMP). The Corporation's office was first formed in Delhi in May, 1959 when the three Projects were actually transferred to the Corporation. The Office of the Corporation was shifted to Ranchi in September, 1959. In November, 1960, the Corporation was entrusted by the Government with the execution of the Heavy Machine Tools Project for the manufacture of heavy machine tools.

1.2. The Corporation had prepared a proposal to set up a Steel Structural Fabrication Shop for a capacity of 25,000 tonnes of fabricated structurals per annum on double shift basis as an adjunct to the Heavy Machine Building Plant. The proposal had been approved by the Government in early, 1965. The Coal Mining Machinery Project was formed into a separate Corporation called Mining & Allied Machinery Corporation with effect from 1st April, 1965.

Heavy Machine Building Plant

1.3. The question of setting up a unit for the manufacture of heavy machinery and equipment had been under consideration of the Government of India since 1955. In view of an ambitious programme of development of iron & steel industry in India in the 2nd, 3rd, 4th and subsequent Plan periods, there was a great need for India becoming self-sufficient as early as possible in the manufacture of heavy machinery and equipment particularly those required by the Steel Plants. A team of experts from the U.S.S.R. invited by the Government to advise on the establishment of a unit for the manufacture of heavy machinery and equipment required by the iron and steel plants submitted its preliminary project report in January, 1957.

1.4. More or less at the same time, the U.K. Engineering Mission appointed under the joint aegis of the Colombo plan and the Federation of British Industries had carried out similar survey and submitted their report in January, 1957. The Soviet experts opinion was that to make the unit economical, it should not have a capacity below 45,000 tonnes per annum and they would welcome starting up a unit with 80,000 tonnes capacity capable of expansion upto 1,65,000 tonnes. The British team, however, had suggested units of smaller capacity dispersed in different parts of the country.

1.5. The Government appointed a Committee under the Chairmanship of Shri Jehangir Ghandy, Director, Tata Industries (P) Ltd., to examine the proposals of the U.S.S.R. team and the U.K. Mission and to advise them

on the most suitable plan for the establishment of heavy engineering industry. The Committee reported in March, 1957 that the proposals of the U.K. Mission were preferable to those of the Soviet team. However, ultimately at the end of 1957 the Government decided to set up the plant with technical collaboration and credit assistance of the U.S.S.R. having 80,000 tonnes per annum capacity starting with 45,000 tonnes in the first stage to be expanded to 80,000 tonnes in the second stage.

1.6. An agreement for the preparation of Detailed Project Report was signed in December, 1957. The report was received in June 1959 and after examination by a Committee of experts, it was accepted in November, 1959. An agreement for the supply of plant, equipment and certain other materials to be imported from the U.S.S.R. was signed on 12th March, 1960.

1.7. In April, 1960, the Government decided that instead of implementing the Heavy Machine Building Project in two stages the Corporation may go ahead with the plant of 80,000 tonnes in one stage. As a result another contract was entered into in July, 1962, for the supply of plant and machinery. Initial production in the plant commenced in November, 1963 while the construction/erection of equipment was in progress.

Steel Structural Fabrication Shop

1.8. To meet the requirements of steel structures the Corporation decided to put up a Steel Structural Fabrication Shop with a capacity of 25,000 tonnes of fabricated structurals on a double shift basis as an adjunct to the HMBP. The proposal was approved by the Government early in 1965 and its execution was taken up by Corporation thereafter. Initial production in the shop commenced in 1966 with the limited equipment installed at the time.

Foundry Forge Plant (FFP)

1.9. The Government had also felt that besides the concept of the Heavy Machine Building Plant which was to come up much later, there was need in the country for the manufacture of heavier ranges of castings and forgings, since a number of private sector units had been licensed for undertaking manufacture of machinery for Sugar, Jute, Cement Industries, etc. all of which required large sized and heavy castings. A committee was therefore set up by the Government in 1955 to consider the approximate demand of castings and forgings to determine the most suitable capacity to be developed. Pursuant to the recommendations of the team, global tenders were invited by the Government for setting up a Foundry Forge Plant having an annual capacity of 25,000 tonnes of grey iron castings, 15,000 tonnes of steel castings and 5000 tonnes of forgings. Out of quotations received in response to the tender notice the offer of Messrs Technoexport of Czechoslovakia was considered to be the most attractive. They also offered deferred payment terms.

1.10. In their report on HMBP the Soviet team had recommended a captive foundry and forge plant to form an integral part of the project. Therefore, in January, 1958 the Government accepted the Czechoslovakian offer for setting up a Foundry Forge Plant and decided to tie it up with the Heavy Machine Building Plant.

1.11. The size of the F.F.P. offered by M/s. Technoexport was found to correspond to an approximate production of 23,000 tonnes of heavy machinery items included in the HMBP by the Soviet team. This was inadequate to meet the needs of castings and forgings of HMBP which was to have a capacity of 45,000 tons even in the first stage. It was therefore decided to arrange for its immediate expansion to meet the requirements of HMBP upto 45,000 tons stage. The 23,000 tons capacity came to be called as the first stage and 45,000 tons as the second stage. The detailed project report for capacity of 45,000 tons was received in November, 1959 and after detailed examination it was accepted on the 12th April, 1960. The contract for the supply of plant and equipment for the second stage was executed on the 31st March, 1961.

1.12. With the decision to meet the requirements of HMBP for castings and forgings upto 80,000 tons of heavy machinery items and also of the HMTP it was decided to raise the capacity of the FFP further to constitute the first phase of the third stage. The Detailed Project Report for additional capacity was accepted in May, 1963. A fresh contract for the supply of plant and machinery was also entered into in May, 1963.

1.13. This plant was to meet the requirements of HMBP in respect of castings upto 100 tons piece-weight and of forgings upto 30 tons piece-weight. In order to meet the requirements of forgings of higher weight ranges it was decided to set up a 6000/8000 tonne forging press as a part of the FFP. Offers received in response to Global enquires for this press were examined and a contract was signed with M/s. Technoexport of Czechoslovakia in February, 1964. The construction work of this press is now in progress. Initial production in this plant commenced in 1964-65 based on the equipment installed.

Heavy Machine Tools Plant

1.14. On the recommendations of a Committee appointed to study the pattern of demand, capacity etc. for Heavy Machine Tools the Government took decision that a factory should be set up to undertake manufacture of diverse items of heavy tools starting with 10,000 tons per annum in the first stage to be ultimately expanded to 20,000 tons in the second stage. In November, 1960 the Corporation was entrusted with the execution of this project, locating the same in Ranchi for the reason that the supply of heavy castings required by the HMTP could conveniently be met by the F.F.P. A contract with M/s. Technoexport of Czechoslovakia for the preparation of the Detailed Project Report was executed on the 31st May, 1961. It was received in April, 1962 and accepted on the 30th May, 1963. A contract for the supply of plant and equipment by M/s. Technoexport was also executed on the 30th May, 1963. Initial production in this unit commenced in 1966-67.

(B) Examination of the project by the Estimates Committee and the Committee on Public Undertakings

1.15. The project was examined by the Estimates Committee (1963-64). The Estimates Committee presented to the Lok Sabha their Fifty-first Report on the working of Heavy Engineering Corporation Ltd., Ranchi on the 3rd April, 1964. The Seventh Report of the Committee on Public

Undertakings on the Action Taken by Government on the recommendations contained in the Fifty-first Report of the Estimates Committee was presented to the Lok Sabha on the 5th March, 1968.

1.16. The project was again examined by the Committee on Public Undertakings (1967-68). The Committee on Public Undertakings presented to the Lok Sabha their 14th Report on the working of Heavy Engineering Corporation Ltd. on the 24th April, 1968. The 13th Report of the Committee on Public Undertakings on the Action taken by Government on the recommendations contained in the 14th Report of the Committee on Public Undertakings was presented to the Lok Sabha on the 27th April, 1972.

1.17. One of the functions of the Committee on Public Undertakings is to examine the Audit Reports, if any, of the Comptroller and Auditor General of India on the working of Public Undertakings. The present examination of the Heavy Engineering Corporation Ltd. is based largely on the comprehensive appraisal of the working of the Heavy Engineering Corporation Ltd. contained in the Audit Report (Commercial), 1970—Part VII. The Audit Reports (Commercial), 1968 and 1969 also included some paragraphs on certain individual cases of irregularities, losses etc. in the Heavy Engineering Corporation Ltd. These paragraphs have also been considered by the Committee.

II

PROJECT ESTIMATES

2.1. According to the estimates in the Detailed Project Report, the entire heavy engineering complex consisting of the Heavy Machine Building Plant, the Foundry Forge Plant and the Heavy Machine Tools Plant (including township) was estimated to cost Rs. 132.79 crores. Subsequently, it was found that the cost of certain items (Rs. 47.66 crores) was not included in the estimates made in the Project Report. The total cost inclusive of these items was estimated at Rs. 180.45 crores. According to the revision of estimates made up to June, 1964, the total cost was anticipated at Rs. 212.87 crores. The estimates underwent further revision from time to time and the ultimate estimated figure of total cost stands at Rs. 211.77 crores. Out of the above, estimates of Rs. 177.53 crores (Rs. 108.53 crores in respect of Foundry Forge Plant, Rs. 22.27 crores in respect of Heavy Machine Tools Plant and Rs. 46.73 crores for the Heavy Machine Building Plant) have so far been approved by the Government. The actual expenditure incurred upto 31st March, 1971 was Rs. 187.41 crores.

2.2. The table below shows the cost of each project as estimated in the Detailed Project Report, as per latest estimates approved by Government, the date of sanction and the actual expenditure incurred upto 31-3-71 :—

	As estimated in DPR		Latest Estimates approved by Govt.		Date of Sanction	Actual Expenditure as on 31-3-71
			Rupees in Crores			
1. Foundry Forge Project I and II stage	46·60	71·62		108·53	16-5-68	93·30
III stage	25·02					
2. Heavy Machine Building Plant	28·15		44·20			
3. Structural Fabrication Workshop of H.M.B.P.	2·30	30·45	2·53	46·73	9-4-70	45·83*
4. H.M.T.P.	18·55		22·27		18-6-69	17·18
	120·62		177·53			156·31

*Cost of burnt out equipment Rs. 50 lakhs excluded as this is not included in the Project cost estimates.

2.3. The Ministry have informed the Committee that the increase in the project estimates was substantially due to the DPR's not having covered a number of items which would normally be included in them. The position

in regard to the three projects of Heavy Engineering Corporation Limited is as under :—

Foundry Forge Plant

The estimate of cost of the plant as shown in the various detailed project reports, was Rs. 61.67 crores upto 1st Phase of third stage expansion. The revised cost estimate in May, 1965 was Rs. 97.41 crores. The capital cost increased by a further amount of Rs. 11.12 crores on account of devaluation of the Indian rupee. The net increase in the May, 1965 estimates over the DPR estimate (*i.e.* Rs. 97.41—Rs. 61.67—Rs. 35.74 crores) is made up as follows :—

(*a*) Items not included in DPR	.. = Rs.	19·79 crores
(*b*) Increase in cost of construction ..	.. = Rs.	11·89 ,,
(*c*) Additional items of work (6,000 tonnes press) ..	.. — Rs.	6·27 ,,
(*d*) Savings effected by the company while reviewing the estimate in May, 1965	.. Rs. (—)	2·21 ,,
	Rs.	35·74 crores

Items not included in the detailed project reports but included in the final cost estimate of the project, are cost of detailed project reports, consultancy fee, erection, supervision fee etc., customs duty, insurance, freight, sand washing plant, transformer cranes, cost of foreign experts, training of Indian Engineers abroad, Railway siding outside plant, temporary office buildings and establishment costs. These items were not included in the DPR as according to the practice prevalent in Czechoslovakia. Messrs Techno-export, the party which prepared the DPR's included in the project reports only such of those items as had a direct bearing on the erection of the plant and did not include items on which expenditure had to be incurred by the promoting agency from internal resources.

The increase in the cost of construction was due to the increase in the quantity of fabricated steel to the extent of 10,641 tonnes to be used over and above the DPR provision of 33,000 tonnes. The DPR provision was only tentative. The designs were prepared on the basis of section of steel indicated in ISI publications furnished by the Indian party but during execution, these had to be modified to the nearest size actually manufactured in the country. Further, the DPR drawings provided for welded structures but having regard to the limited capacity for such work in the country, revetted structures were resorted to thereby increasing the quantity of steel. The increase was also partly due to the poor soil conditions resulting in an extra expenditure of Rs. 3.03 crores on pile foundations. Further the rates provided in the DPR estimates for the various items were based on the Bhilai Steel Plant cost which turned out to be considerably inadequate for Ranchi.

Heavy Machine Building Plant

The Heavy Machine Building Plant proper has been set up with assistance from the Government of USSR. The Plant has also attached to it, a steel structural shop which has been set up without any foreign assistance.

The detailed Project Report for the Heavy Machine Building Plant proper prepared by the USSR Authorities in 1959 contained only estimates of cost of civil construction, plant and equipment, erection expenses and did not include the cost on account of various external and internal charges like cost of detailed Project Report, working drawings, expenses on foreign experts and expenditure on training of Indian Engineers abroad. The estimates in the detailed Project Report and the approved estimates are as under :—

(Figures in Rs. lakhs)

	DPR Estimates	Approved Estimates
1. Civil construction	706	948
2. Plant and equipment	1996	2520
3. Erection expenses	113	123
4. DPR, working drawings, technical documentation, organisational manual	Not shown	179
5. Foreign experts	—do—	276
6. Training of Indian Engineers abroad	—do—	50
7. Other recurring and non-recurring expenditure ..	—do—	324
	2,815	4,420

In so far as the Steel Structural Shop is concerned, the capital cost was estimated at Rs. 240 lakhs and the project was approved in January, 1965.

The revised approved capital cost is Rs. 253 lakhs and the comparative details are as under :

(Figures in Rs. lakhs)

	Initial Estimates	Approved Estimates
1. Civil works	86·00	99·50
2. Plant and equipment	100·00	105·00
3. Miscellaneous	54·00	25·50
4. Increase on account of devaluation of Indian rupee	—	23·00
TOTAL	240·00	253·00

Heavy Machine Tools Plant.—The DPR estimates and the approved estimates compare as under :

(Figures in Rs. lakhs)

	DPR Estimates	Approved Estimates
1. Machinery and equipment	1,360·75	919·00
2. Customs Duty	Nil	230·00
3. Inland Railway freight & Port clearance charges on Machinery & equipment	40·75	35·00
4. Erection expenses on Machinery & Equipment ..	77·82	35·00
5. Construction cost within the plant boundry ..	375·91	352·35
6. Construction costs not included in DPR ..	Nil	74·48
7. Payments for technical collaboration and consultancy services, cost of design documentation detailed project Reports etc.	—	478·12
8. Other costs	—	103·05
	1,855·23	2,227·00

As in the case of the other two plants, the increase in the cost estimates was mainly the result of certain items of expenditure not having been provided for in the DPR.

2.4. The question of increase in the capital cost estimates of the projects of HEC was considered be the Estimates Committee (1963-64) in their 51st Report and again by the Committee on Public Undertakings (1967-68) in their 14th Report on Heavy Engineering Corporation Ltd. The Estimates Committee observed that it was not correct to undertake a project on the basis of incomplete estimates and to subsequently increase the outlay thereon. That Committee recommended that the final estimates of the various projects be immediately prepared and placed before Parliament. The Committee on Public Undertakings (1967-68) expressed their regret that even after more than seven years from the submission of the original estimates by the Corporation in June, 1960, these estimates had not been approved by the Government, not to speak of their being placed before the Parliament.

2.5. The Committee asked the Ministry to furnish a detailed note showing when the estimates for each plant were received for the first time from HEC, the stages through which it passed, the extent of the time taken at each stage, the reasons for the inordinate delay and the particulars of persons who were responsible for this delay, in sanctioning of estimates. In reply the Ministry furnished a statement (Appendix-I) showing the various stages of each case from the time a complete proposal from the Company was received to the time of issue of final sanction by Government.

2.6. The Ministry further stated as follows :—

"No particular person, as such, was responsible for the delay at any stage. In view of the nature and magnitude of the costs, careful scrutiny was required of the various items included in the cost estimates and their reasonableness. The cost estimates included a number of items not included in the detailed project report, as for example, the cost of detailed project report, working drawings, etc., and it had to be examined why these were not included at the D.P.R. stage. Throughout, the endeavour was to keep down the cost to the irreducible minimum and to avoid all wasteful expenditure."

2.7. During evidence, the Secretary, Ministry of Steel and Mines (Department of Steel) admitted that there had been considerable delay in the final approval and sanction of estimates. He, however, stated that the position with regard to this had considerably improved and it was possible to get sanctions quicker then was the case in the past.

2.8. The Committee enquired as to how the expenses were incurred without the sanction of the estimates. The Secretary stated as under :—

"Actually the funds were released by Government in spite of the fact that no formal sanction of estimates had been given. This is not a satisfactory feature."

He further stated :—

"Government was aware that money was being spent, funds were being made available for this purpose and provisions were included in the budget. But the unsatisfactory feature was that the formal sanction had not been issued. If that had been issued there would have been much better control."

He added that "the procedural delay has caused delay in issuing the formal sanction."

Estimates for Township and Common Charges

2.9. The Ministry informed Audit in July, 1970 that "The Estimates of cost of township and 'common charges' are yet to be submitted by the Corporation for approval." The Ministry have informed the Committee that "The estimates of township and common charges have since been submitted by the Company to Government for approval." They have added that "Though Heavy Engineering Corporation Ltd. submitted an estimate of cost of township in 1964, they did not furnish certain clarifications asked for on this estimate as a result of which the estimate could not be approved.

2.10. The Committee enquired from the Corporation as to what expenditure had been incurred upto 31st March, 1971 on townships and what was the justification for incurring the cost without getting it approved from the Government.

In reply, it has been stated that

> "Expenditure upto 31-3-1971 on Township amounted to Rs. 18.79 crores. The original estimates for the Township* for Government approval in June, 1964. The budget estimates for construction work in Township are also got sanctioned by Government each year. The expenditure is thus covered by budgetary sanction accorded by Government. However, the total expenditure is within the original estimate."
>
> *as submitted to the Board were also submitted.

2.11. The expenditure incurred on Headquarters upto 31st March, 1971 has been Rs. 12.31 crores.

2.12. During evidence the Committee enquired whether the Ministry agreed that the submission/approval of project estimates long after the completion of the work, defeat the very purpose for which such approval is required to be sought *i.e.* control on actual expenditure. The Secretary (Ministry of Steel and Mines) replied as under :—

> "It is unsatisfactory that the township has been constructed without the proper sanction of the estimate. The reason why financial sanction has not been issued is that some of the land was acquired by Bihar Government and they have to tell us how much money has to be paid and the Finance Ministry was reluctant to issue that sanction unless they were made aware of the actual cost. What I am hoping to do is to make an assessment of what the land acquisition cost will be and then go ahead with the issue of sanction and if necessary a supplementary sanction can be issued later on."

2.13. The Committee take a serious note that it took the Corporation and the Ministry almost ten years to finalise the capital estimates of the various projects of HEC. The estimates for township and 'common charges' are yet to be finalised by them. It is unfair to the Parliament and to the country to make them commit to a project on a peacemeal basis from year to year without giving a true and realistic picture of the final cost of the project.

2.14. The Committee would like to strongly re-emphasise and reiterate what has been stated in the 51st Report of the Estimates Committee (1963-64) that the 'total commitments on such projects should be prepared as realistically as possible in the beginning and should be available to Government and Parliament before a project is approved, so that there is proper and effective control on the finances of the Company'. The Committee recommend that all the procedural delays should be investigated and responsibility fixed for the various lapses which have caused the delay in the sanction of the estimates.

III

AGREEMENTS WITH CONSULTANTS AND COLLABORATORS

A. Agreement for supply of Plant and Equipment—Foundry Forge Plant

3.1. In August, 1958 the Government entered into an agreement with M/s. Technoexport (now Skadoexport) of Czechoslovakia for the supply of plant and machinery and equipment valued at Rs. 10 crores for stage 1 of the Project. In March, 1961 two more agreements and in May, 1965 one more agreement were entered into with the same firm for the supply of :

(a) Spares valued at Rs. 77 lakhs F.O.B. required for stage-1, to be delivered between July, 1962 and December, 1964.

(b) Plant and machinery valued at Rs. 7 crores F.O.B. (to be delivered by October, 1964) and spares worth Rs. 60 lakhs F.O.B. (to be delivered on a date to be settled mutually) for stage-II of the Project; and

(c) Spare parts valued at Rs. 12.03 lakhs F.O.B. (to be delivered during the period from January, 1966 to March, 1968) for the 1st phase of stage-III.

3.2. Owing to delay in the completion of civil work, steel fabrication work, etc. the Company requested the firm in early 1962 to defer the delivery of the plant and equipment for both the stages, but no such request was made regarding the supply of spares. As a result, almost the entire quantity of spares received by 31st March, 1965 against the first two agreements and during July, 1965 to August, 1968 against the 3rd Agreement were recieved prematurely. The cost of the these spares amounted to Rs. 232.84 lakhs after taking into account the elements of customs duty, freight, insurance, etc. and the effect of the devaluation on actual payment.

3.3. In addition to these spares equipment worth Rs. 3.45 crores ordered for stage-1 of the Project and received before the request for deferring of supplies was made also remained idle for more than two years till they were issued for erection.

3.4. During the course of evidence the Committee enquired as to why no request was made for the deferment of supply of spares for the plant and equipment, the delivery of which was got postponed, and whether this was due to omission. The Chairman, HEC stated that "the normal practice of course is that when machines are purchased, spares will also come along with them. But this has not been done." He added that "normally contracts for the spare parts should be a part of the equipment. In this case, somehow the contract of the spare parts was different and nobody connected this with the collaborators and they went on supplying the spare parts."

Subsequently in a written reply it has been stated that "presumably it was considered that spares would be supplied along with the equipment." It has been added that "the last consignment of equipment for 1 stage was received by June, 1965 and the last consignment of spares for 1 stage was received by January, 1966."

3.5. The Committee enquired whether it was due to the lack of co-ordination between the two contracts. They further enquired whether there was enough time for the Corporation to try and stop the spares being imported when the original machines were not being imported just then. The Chairman replied that "This should have been done because the contracts are separate. Somebody should have seen that the contract for spare parts should also be taken into consideration but it was not done." The Chairman admitted that there was a lack of coordination.

3.6. During the course of evidence of the representatives of the Ministry of Steel and Mines (Department of Steel), the Secretary, Ministry of Steel and Mines also agreed that "it was wrong not to have deferred the spares when the equipment was deferred."

3.7. The Committee enquired whether any responsibility has been fixed for the lapse and if not, the reasons therefor. The Secretary replied in the negative but promised to examine the matter.

3.8. The Committee note with profound regret that spares worth more than two crores of Rupees were received much before the receipt of plant and equipment for which the spares were required. The spares rusted in the stores till the plant and equipment arrived. The capital remained blocked. The loss of interest has not been calculated. In their explanation for the loss the Corporation have merely stated "presumably it was considered that the spares would be supplied alongwith the equipment". In the opinion of the Committee the huge loss suffered by the Corporation is due to utter lack of coordination.

3.9. The Committee recommend that the Ministry should re-examine the whole matter and fix responsibility for this serious lapse.

3.10. Till 1967-68 the imported spares issued for maintenance and repair of equipment were not accounted for. During 1968-69 the value of these spares was assessed at Rs. 38.54 lakhs on the basis of the quantity of production in the Foundry Forge Plant during the years 1964-65 to 1968-69 instead of on the basis of actual issues on the ground that prices of individual items were not furnished by the suppliers. Accordingly, necessary adjustments were carried out in the accounts for 1968-69.

3.11. The Committee enquired whether it was not possible to find a way out so as to co-relate the booking in accounts with the actual consumption in order to have a proper control on consumption of stores/spares. In reply it has been stated that "it is desirable to co-relate the booking in accounts with the actual consumption of spare parts." It has, however, been added that "this would be possible if price of individual items is known. Notional rate can also be adopted if at least individual weight of each spares is known. This will be kept in view for adoption as far as possible."

3.12. The Committee regret that what the Corporation themselves feel as 'desirable' has not been done in practice. HEC Plants are not the only plants set up with the collaboration of East European countries. Heavy Engineering Corporation should have consulted other similar undertakings and should have tried to corelate the booking in accounts with the actual consumption in order to have a proper control on consumption of stores/spares.

3.13. The Committee recommend that the Ministry/Bureau of Public Enterprises should issue guidelines making it obligatory on all Public Undertakings to insist that the price and weight of each individual spare/equipment to be imported is mentioned in a statement attached to each agreement, with foreign collaborators.

B. Agreement for Consultancy and Technical Services for Foundry Forge Plant and Heavy Machine Tools Plant

3.14. The collaborators for the Foundry Forge Plant and the Heavy Machine Tools Plant are the same Czechoslovakian firm, viz. Skadoexport. The Corporation had entered into several agreements with this firm for consultancy services. Though the Government of India, in accordance with the recommendations of the Estimates Committee had laid down in September, 1960 the principles to govern fixation of renumeration and fee for consultancy services, uniform procedure regarding the payment of fees was not included in the four agreements entered into during May, 1963—June, 1964. In some cases it was to be calculated on the basis of estimated man-months subject to adjustment on the basis of actuals. In other cases there was no provision for such adjustment. There was ambiguity about the definition of 'man-months' also. In one agreement it was stated that fees should be calculated on "the basis of actual man-months of service put in during the period." The other agreements stated that the calculation was to be made "in direct proportion to the number and duration of stay in India of the suppliers' specialists". The Company had doubts on the points whether the periods of leave spent in and out of India, terminal leave, transit time and non-availed portions of leave for which cash payment was made were to be included in the man-months to be taken into account for payment to the collaborators under these agreements. The Company referred the matter to the Government in April, 1967 who advised that the issue might be kept pending till a settlement was reached in regard to the salaries of Czechoslovakian technicians. Accordingly, the Company continued to pay the collaborators for the doubtful periods of leave, journey etc. The payment on such accounts amounted to Rs. 1.49 lakhs up to 31-3-1969 for the Heavy Machine Tools Plant alone. The Foundry Forge Plant has not assessed the amount so far.

3.15. The Committee enquired as to what were the reasons for not following uniform procedure regarding the payment of fees to M/s. Skadoexport with whom the Corporation entered into several agreements for consultancy services.

In reply, it has been stated as follows :—

> "The agreements were entered into with M/s Skadoexport on different dates ranging from 1958 to 1964. The earlier agreements provided for payment of lump sum amounts as fees for consultancy which have been improved upon in the subsequent agreement in which the fees payable have been linked up with the man-months of the experts. Thus a uniform procedure was not allowed in order that improvements can be effected in arriving at the basis for payment."

Asked whether the agreements were entered into with the approval of Government, it has been stated that "all the agreements have received the approval of Government."

3.16. The Committee enquired whether any final settlement with regard to the principles governing fixation for remuneration and fee for consultancy services had been made with the collaborators and how much amount was paid up-to-date in respect of the doubtful periods, separately for Heavy Machine Tools Plant and Foundry Forge Plant.

In reply, it has been stated as under :—

"The Government of India, Ministry of Finance, Department of Economic Affairs have since clarified that the technological fee is to be paid to the Czechoslovakia Organisation concerned in addition to the salaries of the experts to cover charges for requisitioning the services of the Czechoslovak Experts and expenses to be incurred according to the Czechoslovak regulations on medical, health and retirement facilities etc. for the experts. This fee is a part of the salary though shown separately and is payable during the whole period of the stay of the experts, inclusive of the leave period, spent in India or outside and the transit period."

3.17. So far as the agreements with M/s. Skadoexport for the 1st and 2nd Stages are concerned, though the consultation and supervision fee payable was worked out on the basis of estimated man-months at the time of D.P.R. this fee is not subject to adjustment on the basis of acutal man-months and is a fixed amount payable in 4 instalments. Hence, as there is no link between the fee payable and the actual man months there is no question of payment of the fee in regard to doubtful period of journey etc. So far as the agreements in regard to III/I and III/II stages are concerned, the fee is payable in 4 instalments the first three payments being on fixed dates and the final instalment being payable on the basis of actual man-months after completion of the work. Accordingly, 3 instalments on the basis of estimated man-months have been paid to M/s. Skadoexport, and the last and final instalments have not yet been paid as the work is still continuing. In view of the Government clarification now given the payments for period of leave transit etc. cannot be construed as doubtful."

3.18. The Committee are happy that the doubts about the payments to the collaborators for doubtful periods of leave, journey etc. have since been cleared. The Corporation have received clarification from Government that "the doubtful periods are not doubtful and that the payment has to be made." But the fact remains that the doubts arose only because uniform procedure was not adopted even after September, 1960 when principles to govern fixation of remuneration and fee for consultancy services were laid down by the Government in accordance with the recommendations of the Estimates Committee. The Committee reiterate that in future the procedure laid down by the Government in regard to such matters should be strictly adhered to by the Undertakings while entering into agreements with foreign countries.

IV

ERECTION AND COMMISSIONING

A. Delay in the Erection and Commissioning of the Plant

4.1. The table below indicates the scheduled dates of completion of civil work and erection work of the various plants of the Company, their revision from time to time, percentage of actual work done and anticipated/actual dates of completion thereof :—

Plant	As per agreed schedule attached to the DPR		As per schedule of April, 1962		As per revised programme (April,1966)		Actual dates of completion		Percentage of actual work done in case where work has not been completed as on 31-3-69		Remarks
	Date of completion of civil work	Date of completion of erection work	Date of completion of civil work	Date of completion of erection work	Date of completion of civil work	Date of completion of erection work	Civil work	Erection work	Civil work	Erection work	
1	2	3	4	5	6	7	8	9	10	11	12
A. *Foundry Forge Plant*											
1. Grey Iron Foundry	31-3-64	30-11-64	30-6-65	31-12-65	1-2-67	1-9-67	Aug, 68	Aug, 68	—		—
2. Steel Foundry ..	30-6-64	30-6-65	30-6-66	31-12-66	1-4-68	1-5-68	Jan. 69	not completed	—	96·61 (Erection of Tech. Equip)	Structural Erection already completed.
3. Forge Shop	30-9-64	31-10-65	31-12-65	31-7-66	1-1-68	1-8-68	June, 68	Do.	9·45	Do.	Do.
4. Rough Machine	31-7-64	31-8-65	31-3-66	31-8-66	1-1-68	1-8-68	March, 68	Do.	94·25	Do.	Do.
5. Fettling Shop ..	30-9-64	30-11-64	31-7-65	31-1-66	1-2-68	1-4-68	June, 68	Do.	99·15	Do.	Do.
6. Coke oven and by-products	Not given	Not given	Dec. 63	Aug. 64	—	—	May, 65	May, 65	—	—	—

7. Forging and Heat Treatment	Not given	Not given	March, 63	June, 63	—	—	Dec. 64	Dec. 64	—	—	—
8. Auxiliary Block	Not given	Not given	Feb, 63	Dec. 63	—	—	Oct., 63	Oct., 63	—	—	—
9. Reduction Gear Shop	Do.	Do.	Aug. 63	June, 64	—	—	Feb. 65	Feb., 65	—	—	—
B. *Heavy Machine Building Plant*											
10. Medium Machine Shop	Do.	Do.	Jan. 64	Aug. 64	—	—	April, 65	April, 65	—	—	—
11. Heavy Machine Shop	Do.	Do.	Sep. 64	June, 65	—	—	Dec. 65	Dec. 65	—	—	—
C. *Heavy Machine Tools Plant*											
12. Principal Production Building	June, 65	June, 65	June, 66 (Schedule of October, 1962)	June, 66 (Schedule of October, 1962)	Dec. 66 (Harmonogram of October 63)	June, 67	—	—	99·82	98·00 (Erection of Plant and Machinery	Structural Erection already completed.

4.2. The Committee enquired as to what was the up-to-date position with regard to the construction and commissioning of all the plants. In reply it has been stated as under :—

"Construction and commissioning of Heavy Machine Building Plant and Heavy Machine Tools Plant are complete (except for some equipment still to be put up in the Steel Structural Fabrication shop of Heavy Machine Building Plant). The 1st and 2nd Stage of the Foundry Forge Project has been completed. However, there had been delay of a few months over the 1966 programme. Work on the III/I stage and III/II stage is in the progress. The main work in the III/I stage yet to be completed is commissioning of 10 Ton Electric Arc Furnace and Expansion of the producer Plant. 10 Ton Electric Arc Furnace is ready for commissioning. Producer Plant will be ready by the end of 1972. III/II stage comprises of 6,000 Tonnes Press. The erection of the Press with two furnaces is scheduled to be completed by the end of December, 1971 and the unit will be commissioned by March, 1972. This is as per schedule of April, 1971".

4.3. The reasons for delay in the completion of the each of the three Plants are given below :—

Foundry Forge Plant

(a) Owing to inadequacy of initial soil investigation by the Bihar Institute of Hydraulic and Applied Research, Khorgauli, additional soil investigation had to be undertaken between 1961 and 1963 at a cost of Rs. 2.25 lakhs.

(b) Because of the soil being of low bearing capacity the Company had to go in for pile foundations of buildings which resulted an additional work the cost of which amounted to Rs. 303.48 lakhs.

(c) It took over eight months to issue work orders for steel fabrication work from the date of receipt of tenders. In the opinion of the Management the time taken from the date of receipt of tenders to issue of work orders "cannot be construed as delay as this is very modest time required to process the tenders of this magnitude and complexity involving Rs. 712 lakhs."

(d) The progress of fabrication work done by the fabricators was slow mainly on account of delay in procurement of steel for a total quantity of 44,300 tonnes of fabricated structures. (The indents for the procurement of steel were initiated only after the work, orders had been placed on the fabricators. By the time, the fabricators received matched steel, their shop capacity had been filled with other project works and they were, therefore, not able to give full rated monthly fabrication.)

Apart from this, other reasons which caused delay were :—

(i) Revision in original indents caused by amendment of indenting procedure by the Iron and Steel Controller.

(ii) Inability on the part of producers to supply plates and sections, necessitating large scale imports.

(iii) Plates and sections were ordered in specific lengths but mills could not supply in these lengths even after prolonged delay. Ultimately materials were accepted in random lengths.

(iv) As steel could not be received by the fabricators in matched quantities, proper sequence of fabrication and erection could not be maintained and some of the fabricated structures could not be erected even though received at site.

Heavy Machine Building Plant

There was delay in :

(a) receipt of working drawings, (according to the construction schedule of April, 1962 the working drawings were to be received during the period from December, 1960 to June, 1962 but were actually received during the period from April, 1961 to May, 1966).

(b) receipt of steel structures, (according to construction schedule for commissioning of shops, drawn in April, 1962, the shipment of the steel structures was to be completed between November, 1961 and July, 1963, but it was actually completed between January, 1963 and August, 1965);

(c) receipt of equipment, (According to construction schedule drawn in April, 1962, the equipment should have been received between September, 1961 and June, 1964. Upto May, 1966, equipment ranging between 50.03 per cent and 96.00 per cent of the actual requirement was received);

(d) receipt of electrical materials. All the supplies mentioned above were to be made by the Russian Collaborators. Recovery by way of compensation for the loss due to delay in supplies was not considered by the Company as the agreement did not provide for recovery of liquidated damages. Management stated (January, 1970) that the collaborators did not agree to the inclusion of a clause in the agreement for recovery of liquidated damages.

Heavy Machine Tools Plant

(a) Construction of main production building was delayed because of failure to fabricate necessary structurals by the company itself on account of its difficulty in procuring matching steel.

(b) Delay in construction of building as well as belated supply of foundation drawings by the overseas suppliers resulted in delays in erection of machinery. There was delay in obtaining and erecting heavy Electrical Overhead Travelling crane from Yugoslavia which was necessary before erection of machinery and equipment. Delay was also caused in release of foreign exchange, issue of import licence, etc.

4.4. The Committee on Public Undertakings (1967-68) in Paras 30 and 31 of their Fourteenth Report (Fourth Lok Sabha) on Heavy Engineering Corporation Ltd. expressed their regret regarding the inordinate delays in the construction and commissioning of the projects of the Corporation. The Committee recommended that steps should be taken to complete the construction and to commission all the plants expeditiously. In their reply dated 9-1-69 the Ministry *inter-alia* stated that initial production had already commenced in the three plants. In the case of Heavy Machine Building Plant and Heavy Machine Tools Plant small quantity of equipment was yet to be installed and this was dependent on receipt from abroad.

4.5. The Committee enquired by what date and from what countries the enquipments were expected to be received and the date on which these were actually received. They further enquired as to what were the reasons for the late receipt of such equipment and what action had been taken in the matter. In their reply dated 9-6-71 the Ministry have stated as under :—

Heavy Machine Building Plant

"Equipments were to be shipped from USSR by 1966. These were received during April, 1967 May, 1968. The delivery period of 8 machines had been extended upto the 3rd quarter of 1967. Some equipments received at Calcutta could not be transported to Ranchi for want of special wagons. USSR authorities have attributed the delays in supplies to the fact that latest developments were being incorporated in the machine tools to be supplied with reference to the manufacturing technology of items. There is no provision in the protocol signed with USSR Government for liquidated damages for delay in the supply of equipment."

Heavy Machine Tools Plant

The delay had been in respect of (1) 5 nos. of Electrical overhead travelling Cranes from Yogslavia, (2) 6 Nos. of machine tools from Switzerland and (3) 2 nos. of machine tools from East Germany.

	Delivery Schedule	Actual receipt
(1) 5 nos. of EOT Cranes from Yogoslavia	Middle of 1966	May, 1967 to Nov., 1967.
(2) 6 nos. of machine tools from Switzerland	-do-	During the first half of 1968.
(3) 2 nos. machine tools from East Germany	-do-	-do-

(i) Deliveries of EOT cranes were delayed due to renegotiation and settlement of prices in the context of the devaluation of Indian Rupee in June, 1966.

(ii) The purchase orders for the Swiss and East German machines were placed between November, 1964 and March, 1965. The procurement of import licences for these machines particularly for the Swiss machines took a long time on account of delay in the allocation of foreign exchange. After the release of foreign exchange in May, 1965, the Swiss supplier did not accept the orders until the Swiss Government approved the credit facilities till January/February, 1967."

4.6. As regards the delay in the commissioning of Foundry Forge Plant the Committee on Public Undertakings (1967-68) in Para 29 of their 14th Report on H.E.C. Ltd. observed as follows :—

"The original concept of setting up of Foundry Forge Project was that this plant which has a metallurgical base will supply all the forgings and castings required by the Heavy Machine Building Plant to meet its full needs for the 80,000 tons annual production of heavy machinery. Because of delay in commissioning of F.F.P., the requirements of forgings and castings for the H.M.B.P. had to be met from other sources including imports of heavier range of castings and forgings not available

indigenously. The value of steel castings and forgings obtained from indigenous sources during 1964-65 to 1966-67 amounted to Rs. 52.95 lakhs. Besides, castings and forgings of the value of Rs. 75.50 lakhs had to be imported during the same period."

4.7. The Committee enquired as to what was the value of steel castings and forgings obtained from indigenous sources during 1968-69 to 1970-71 (year-wise) in order to meet the needs of the Heavy Machine Building Plant and the value of castings and forgings which had to be imported, during that period because of delay in the construction and commissioning of Foundry Forge Shop. The management have furnished the following information:—

(*i*) *Value of Steel Castings and Forgings ordered on indigenous sources.*

Year	Value (Rs. in lakhs)
1968-69	28·88
1969-70	143·34
1970-71	6·22

(*ii Value of imparted castings and Forgings.*

Contract No.	Rs. in lakhs.
1. 2802/B dt. 13-9-67	7·14
2. 3959/B dt. 12-8-68	5·04
3. 3161/B dt. 24-12-68	0·12
4. 8824/ dt. 25-6-69	26·22

The above contracts were signed during 1967-69, but the materials were received during 1968-69, 1969-70 and 1970-71.

The total value of the imported castings and Forgings has been arrived on the basis of Rs. 6,000 per M.T. the rate at which the items were evaluated at the time of finalising the draft contract (the contracts including Mechanical and Electrical items also, have been signed at Rs. 11,000 per M.T.) It is not possible at this stage to indicate whether the Castings and Forgings were included in the import list because of the delay in commissioning of F.F.P. or due to tight delivery schedule."

4.8. During evidence, the Secretary, Ministry of Steel and Mines (Department of Steel) informed the Committee as under :—

"The schedule for completing the work relating to FFP which was finalised in April, 1962 and revised in April, 1966 related only to the first and second stages of FFP. According to the revised programme the erection work in Steel Foundry Forge Shop, Rought Machine Shop and Fettling Shop was to be completed between April, 1968 and August, 1968. The revised programme for completing the erection could not be adhered to and the work was substantially completed only by the end of the December, 1968. There was thus a delay of four to eight months in completing the work as compared to the revised programme of April, 1966. This has already been taken note of by the Committee on Public Undertakings in their 14th Report at pages 6 & 7. I would also like to mention here that even though these shops were completed by the end

of 1968, their testing, their commissioning and their working and the modifications which were necessary in getting them to work properly took from 7, 8 to 9 months more with the result that steel foundry was formally handed over for commissioning on the 14th October, 1969—Forge Shop on 14th October, 1969; Fettling Shop on 14th October, 1969, Rough Machine Shop on 31st July, 1969. This of course does not mean that they were in fact used only from these dates. All the machines which were in working order were utilised after the completion towards the end of 1968.

The stage III of FFP is divided into two phases. The first relates to increase in capacity of FFP to requirements arising out of installed capacity of 80,000 tonnes of HMBP. The second phase relates to the 6,000 tonnes press. The work on first and second phases is in progress. The main work in phase I, yet to be completed is the Commissioning of 10 tonne electric arc furnace and this work was to be completed by the end of June, 1971 and that of the 6,000 tonnes press is scheduled to be completed by the end of December, 1971 and the unit will be commissioned by March, 1972."

4.9. Asked whether the Plants were ready, the Secretary stated that the Plants were ready except for the third stage of FFP. The complete plant i.e. the third stage would be completed by the end of Dec. 1971. In reference to the revised programme of 1966 he stated that stages I and II had been completed by the end of 1968. He further stated that all the major equipments had been erected, but in the period of commissioning certain modifications etc. were made and the work was completed by July and October, 1969, when the formal handing over took place.

4.10. The Committee enquired whether the difficulties in the progress of work were brought to the notice of the Ministry by the Corporation from time to time and whether their assistance was sought to overcome them; if so, what action was taken by the Ministry. The Secretary replied that "generally speaking information with regard to the commissioning came to the Ministry through periodical reports on the progress of construction and through quarterly financial reviews. I would say that if the Undertaking had asked for assistance from the Ministry, it should have been given, but I have not been able to find instances where specifically they came up to the Government for assistance in any particular respect. But they did send these periodical reports."

4.11. With regard to the loss suffered by the Undertaking as a result of delay in the erection and commissioning of the project the Secretary stated as follows :—

"When you invest money and there is delay in completing the Undertaking and, therefore delay in starting production certainly it is not a very good way of doing things. There is a loss because the investment does not give the return in time. I agree that it results in loss of efficiency and profitability.

4.12. He further stated that "The delay in completing the project certainly affects the return on capital as well as the cost of production of the items which are manufactured in the project."

4.13. The Committee enquired whether any assessment had been made by the Corporation regarding the total loss incurred by them on account of

delays in construction and commissioning of the Plants. They further enquired whether any attempt had been made to find out the extent of increase in the cost of construction attributable to the delay in the erection of the plant. In reply it has been stated that no such assessment had been made. It has been further stated that in addition to the increase in cost of construction the other major factor had been the loss in production. The Committee enquired as to what extent the production plans of the Company were held up due to delay in the erection and commissioning of the plants and what has been the total loss on that account. The Management have stated as follows :—

> "The rate of build-up of production capacity in the Heavy Machine Building Plant and Heavy Machine Tools Plant and also the production in F.F.P. had been affected due to delay in the erection and commissioning of the Foundry Forge Plant. However, supplies of castings and forgings had been arranged through imports and other indigenous sources. No assessment of the loss on this account has been made by the Company."

4.14. The Committee enquired as to what extent the delay in erection and commissioning of the Plants had lengthened the gestation period beyond the original expectations and to what extent it had adversely affected production. In reply it has been stated that "gestation period has not been fixed. The delay in construction of FFP had lengthened the gestation period of HMBP. However, supplies of castings and forgings had been arranged through imports and other indigenous sources."

4.15. The Committee enquired whether the Management considered that some of the reasons leading to delay in construction were avoidable in nature, if not wholly, at least partly. The Management replied in the affirmative. The Committee further asked to what extent the delay could be avoided with foresight and proper planning. In reply it has been stated that "it is difficult to say now if in the circumstances then prevailing various factors leading to delay could be foreseen."

4.16. The Committee feel that the delay in the erection and commissioning of the project has considerably lengthened the gestation period of HEC resulting in considerable loss in production. The cost of construction went up as a result of delays. The rate of built up of production capacity in the Heavy Machine Building Plant and Heavy Machine Tools Plant and also the production in FFP had been affected due to delay in the erection and commissioning of the Foundry Forge Plant. Forgings and castings worth about Rs. 3.5 crores had to be procured from other sources including imports as a result of delay in the commissioning of this Plant. The Secretary of the Ministry admitted during evidence that "the delay in completing the project certainly affects the return on capital as well as the cost of production of the items which are manufactured in the project." It also results in loss of efficiency and profitability. The Secretary of the Ministry further admitted that they could gather the information with regard to commissioning through periodical reports on the progress of construction and through quarterly financial reviews. The Committee regret that although the information about delay came to the Ministry through these reports, they did not take any effective action.

4.17. The Committee take a serious note that neither the Corporation nor the Ministry have assessed the total loss suffered by the Corporation

a result of delays in the erection and commissioning of the Plants. Inadequate initial soil investigation, delays in securing steel, working drawings and other material etc. have resulted in delays. In the circumstances therefore, it is important to find out as to what extent the delay was avoidable and to ascertain as to the precise causes responsible for not taking timely action.

The Committee recommend that the Ministry/Undertaking should assess the total loss incurred by the Corporation as a result of delays and the extent to which delay could have been avoided. Such a detailed and scientific study will help in avoiding the pitfalls in the future.

B. Under-utilisation of Imported and Indigenous Construction equipment

Imported Equipment

4.19. Under an agreement entered into in March, 1961, with M/s. Machinoexport, USSR for purchase of construction equipment the Company received the following construction equipment at a total cost of Rs. 55.80 lakhs (excluding spare parts) which were utilised to the extent indicated against each.

Sl. No.	Description of equipment	No. of equipment	Cost of equipment	Cost of spares	Date of receipt	Percentage of utilisation against estimated life	No. of equipment declared surplus	Details of equipment disposed off	The position regarding the disposal/utilisation of the remaining equipment
1	2	3	4	5	6	7	8	9	10
1.	Cater Piller Universal Excavator	3			April, 62 to July, 62	32·4%	2 nos. in April, 66 and 1 no. in Nov. 67.	2 nos. disposed off	1 no. is available for disposal.
2.	Automobile mobile crane cap. 6 Tons.	10			July, 62 to Sep. 62	62·2%	4 nos. in May, 68 and 2 nos. in July, 68 and 4 nos. in Dec. 68	4 nos. disposed off during 68-69	Three nos. are available for disposal 1 no. is in use in Forge Shop and 2 nos. are in use for construction.
3.	Self-prepelled crane cap. 25 tons.	6	55,79,519	11,15,904	Aug. 62 to Oct. 62	31·5%	2 nos. in Nov. 67	2 nos. disposed off in March, 69	1 no. is in use for construction in FFP. 2 nos. are in use in HMBP.
4.	Tower crane cap. 5 tons	2			May, 63 to Aug. 64	37·3%	1 no. in April, 66	—	1 no. available for disposal. 1 no. in operation.
5.	Special crane erection cap. 60 tons.	3			Feb. 62 to March. 63	30%	2 nos. in Nov. 67	2 nos. disposed off in Sep. 70	1 no. available for disposal.
6.	Forklift Truck Cap. 3 tons.	6			Oct., 62 to Nov. 62	61·8%	4 nos. in Nov. 67 and 1 no. in July, 68	1 no. disposed off in Feb. 69	3 nos. are in use in HMBP 2 nos. are in use in FFP
7.	Fork lift Truck cap. 5 tons.	1			Aug, 62 to Sep. 62	53·6%	—	—	1 no. is in use in HMBP.

8. Vibrators Electric Type, 4·50	15	June, 1962	Out of 15 nos. 2 nos. have been issued and balance 13 nos. are lying in stores. Details of working of two nos. are not available.	1 no. disposed in March, 69	14 nos. are available for disposal.

4.20. It will be seen that the utilisation of the equipment was between 30 per cent to 62 per cent of their estimated lives and most of the equipment have been declared surplus to the requirement.

4.21. It is further seen that out of 14,957 nos. of spare parts received with the equipment, 9,444 nos. (63.14 per cent) were lying in stores. As the individual items of spares had not been priced, the value of the balance quantity was not known. The Committee enquired whether the possibility of utilising the spare parts had been examined and whether final decision in regard to their disposal/retention had been taken. They also enquired whether it was not possible to find out an equitable basis for the valuation of individual spares parts. In reply it has been stated that "spares parts lying in store are for the equipment to be disposed as well as those in use. They are being drawn for running equipment as and when required. Spare parts for items disposed off, to be disposed off are also offered for disposal."

4.22. As regards valuation of spares it has been stated that "it is not possible to find out an equitable basis for the valuation of individual items of spares. However, this can be done on notional basis per kg." The Committee enquired whether the Bhilai Steel Plant was consulted in the matter which had also been set up with the Soviet Collaboration and would have, therefore, faced the same problem. HEC have replied in the negative.

4.23. The Company also purchased the following indigenous equipment at a total cost of Rs. 6.50 lakhs.

Sl. No.	Description of equipment	Cost (Rs.)	Date of receipt	No. declared surplus
1.	6 nos. Atlas COPCO Portable/Air compressor	1,93,242	Nov. 62	6 nos.
2.	4 nos. Concrete Mixture, Mixture Machine Miller	31,990	Sep., 61	3 nos.
3.	9 nos. Kirloskar Broamwade Air Compressor..	4,24,728	July, 61 to Jan. 62	4 nos.
	Total ..	6,49,960		

4.24. These equipments could be utilised for about 22 per cent to 43 per cent of their estimated lives.

4.25. During evidence the Committee enquired whether the under-utilisation of indigenous and imported equipment was due to over-assessment of the requirements initially or due to developments subsequent to their acquisition. In reply the Chairman, HEC stated that "this equipment was obtained on the recommendations of the collaborators at that time and we followed and obtained whatever they recommended. It appears that obviously these recommendations were really over-estimated."

4.26. During the evidence of the representatives of the Ministry of Steel and Mines (Department of Steel) the Committee enquired whether the Ministry did not agree that a study to find out the opportunity cost for 'buy or hire' decision would have been beneficial. The Secretary, Ministry of Steel and Mines stated as under :—

"I consider that the HEC could have done nothing more than what they did, because some of the equipment which they required would not be available with the contractors. In fact, in Bokaro, we have found that the contractors have to hire equipment and in some cases the management had to hire equipment if they do not want to pay hire charges demanded then it would cause delays when our aim should be to work according to schedule. Moreover, in the present case the imported equipment has been used from 30-60 per cent capacity. I would suggest that if this very equipment in this condition had been hired from a contractor, we, would probably have paid them the full price of the equipment."

4.27. The Committee pointed out that no records were available to indicate that efforts were made by the management to find out the opportunity cost in order to make a 'buy or hire' decision in respect of construction equipment worth Rs. 62.30 lakhs having regard to the extent of the probable utilisation of such machinery in setting up the project. The Secretary stated as under :—

"There is no record which will give in writing that they exercised their mind and made calculation and then took a decision. I am answering this question from my experience in Bokaro. Today, we are looking for such equipment and we cannot get it either on hire or loan. We cannot purchase it because the type of equipment that is required is of such a nature that it is not available off shelf. In my opinion, if you say that we can use upto 30 per cent of the life of such equipment, then probably we will have to pay hire charges in excess of cost of the equipment. In my opinion, the decision that was taken, was not basically a wrong one, because they got the equipment; they got on with the job and they have in fact used the equipment, to the extent of 1/3 of its life and they have been able to dispose of most of it. Even in retrospect the decision does not appear to be wrong."

4.28. The Secretary, however, admitted that "there are no papers available which means that the management did not exercise their mind on the cost effectiveness or the various alternatives." He added that he was supporting the decision as he knew that much of the equpiment would not have been readily available for hire.

4.29. The Committee consider that before taking a decision to purchase equipment required for construction etc. it was but proper that the management should have carried out proper 'opportunity cost' study and kept the facts on record for future reference and guidance. The Committee suggest that the Bureau of Public Enterprises should issue general guidelines on the subject to obviate such lapses in future.

4.30. The Committee also recommend that after the construction or other equipment are found surplus to the requirements of a public undertakings, these should be notified without delay to the Bureau of Public Enterprises as well as other public undertakings so that these could be put to effective use. The Committee would like the Bureau of Public Enterprises to issue necessary directions in the matter.

4.31. The Committee would also like the Corporation as well as the Bureau to make continuous efforts for the deployment/disposal of equipment which are now found surplus to the requirements. The Committee would like to be informed urgently of the action taken in the matter.

V

RATED CAPACITY AND BUILT UP CAPACITY

A. Rated Capacity

Foundry Forge Project

5.1. The Project Report indicates the following rated capacity of the Foundry Forge Plant :—

(*a*) Grey Iron and Non-ferrous Foundry	39,760	M. Tons	(II Stage)
	*40,000	,,	(III Stage)
(*b*) Steel Foundry	66,000	,,	(II Stage)
	1,45,000	,,	(III Stage)
(*c*) Forgings	27,700	,,	(II Stage)
	69,700	,,	(III Stage)

5.2. The detailed Project Report did not indicate the year of reaching the rated capacity of Foundry Forge Plant. In a written reply the Committee have, however, been informed that the Plant will attain the rated capacity in 1977-78.

Heavy Machine Building Plant-Revision of Capacity

5.3. In view of the ambitious programme of development of Iron and Steel industry in the Second, Third and subsequent Five Year Plans involving a heavy drain on the foreign exchange resources of the country, the need for acquiring self-sufficiency in the manufacture of heavy machinery and equipment was felt by Government. Accordingly, on the basis of recommendations made by a team of Soviet experts it was decided to set up a Heavy Machine Building Plant at Ranchi to produce 45,000 tons per year, to be expanded to 80,000 tons, of machinery and equipment primarily for the Iron and Steel Industry, besides meeting the requirements of mineral oil industry, coal mining industry and general engineering items like heavy cranes, excavators, oil drilling rigs, crushing and grinding equipment, press and forge equipment etc. However, in April, 1960 the Government decided that instead of implementing the Project in two stages, the plant should be set up with an initial capacity of 80,000 tons per annum.

5.4. An examination of the Ministry's records on the subject (as made available to Audit) reveals that the initial capacity of the Heavy Machine Building Plant was increased from 45,000 tons to 80,000 tons per annum due to the availability of a further credit of 1500 million roubles from the USSR Government for the establishment of industrial enterprises in India during the Third Five Year Plan and no fresh assessment of the demand for the products of this plant was made.

5.5. During evidence, the Committee enquired as to why the rated capacity of HMBP was increased from 45,000 tonnes to 80,000 tonnes. The Secretary of the Ministry replied that "with the higher credit available

*Subsequently revised to 46,695 M. tons in January, 1962 due to change in product-mix.

and with the knowledge that India will require 80,000 tonnes capacity, they decided to go ahead with the 80,000 tonnes capacity."

5.6. In para 91 of their 14th Report (Fourth Lok Sabha—April, 1968) the Committee on Public Undertakings expressed the opinion that if the original capacities of the Heavy Machine Building Plant and the Foundry Forge Plant had not been revised, these units would have gone into production much earlier; there would have been lesser capital investment and the Company would not have faced the problem of lack of demand and idle capacity.

5.7. The Committee on Public Undertakings in para 6.14 of their 67th Report (Fourth Lok Sabha) again stressed as follows :—

> "The Committee are of the view that Heavy Engineering Corporation Limited are finding themselves in this unhappy predicament primarily due to the inaccurate and overambitious demand projections made before installation of their production capacities. The Secretary of the Ministry of Steel and Heavy Engineering admitted during evidence that "expectations of demand, on the basis of which these capacities were created, did not materialise". If the projections of demand go wrong by a narrow margin, one could ignore it but when the projections do not materialise to the extent of 90 per cent, it only indicated that either the existing machinery for demand assessment was not equal to the task expected of it or the techniques employed or the economic data relied upon for this purpose were totally wrong. The Committee recommend that Government should (i) examine the existing machinery for demand projections, the techniques employed for assessment of demand etc., and (ii) initiate positive steps to gear up the machinery for making demand projections so that production capacities were installed or expanded only to the extent warranted by sound and scientific assessment of demand.
>
> The Committee reiterate that the Government should ensure in future that no undertaking should be launched unless a scientific and accurate assessment of demand has been made by the Government and a proper scrutiny of Feasibility Studies and Project Report has been made."

Utilisation of Capacity—HMBP

5.8. As the utilisation of the capacity of this plant so far has been much below its rated capacity and the orders in hand were not sufficient even for the utilisation of the capacity so far built-up (which was much lower than the rated capacity), the Government invited a team of Soviet experts to make a report on the following two points :—

(i) Immediate action required to be taken to improve the performance of the plant.

(ii) The diversification that could be made and how it could be implemented to utilise the idle capacity of the plant.

5.9. The team visited the plant in February-March, 1968 and during discussion the experts were informed that the plant would get orders to the extent of about 50,000 tons of steel making equipment per annum after 1970-71 for a period of 5 years. This was considered by the team as

satisfactory although it would still leave a gap of about 30,000 tons per annum between the installed capacity and the expected utilised capacity. This was also the possible reason for which the Soviet team did not make any recommendation in its report for the diversification of production.

5.10. Immediately on receipt of the report, a doubt was expressed by the Ministry that orders for 50,000 tons of steel making equipment per annum might not be forthcoming during the period 1970-75. A suggestion was, therefore, made to the Planning Commission in January, 1969 that the construction of the second stage of the Bokaro Steel Plant should be taken up immediately so as to ensure utilisation of the idle capacity in the Heavy Machine Building Plant from 1971 onwards. It was also pointed out that unless an immediate decision was taken in this regard, the Design Department of the Company would also be greatly underutilised from March, 1969 onwards.

5.11. Regarding the utilisation of capacity of HMBP, the Ministry informed the Audit in July, 1970, as follows :—

"The assessment of demand as originally made fully covered the capacity of the plant at 80,000 tonnes a year. Therefore, a fresh assessment was not required when it was decided that the plant should be set up with a capacity of 80,000 tonnes in one stage instead of two stages as envisaged earlier.

A decision has since been taken to expand the Bokaro Steel Limited, to the 4 million tonnes stage. A decision about the establishment of three new steel plants has been announced. The expansion of the Bhilai Steel Plant is also under consideration. With all this the question of utilisation of capacity is not expected to be problem for some time to come."

It was further stated that—

"The plant and equipment were purchased as per Detailed Project Report and specifications laid down the Collaborators. These have been supplied as per specifications laid down. If the product-mix remains the same and the conditions stipulated for supplies along with such product-mix, then there is no reason why the output will not be as per capacity laid down."

5.12. In December, 1970, the Chairman of the Company informed the Audit as follows :—

"The figure of 80,000 tons as the plant capacity per annum was indicated by the collaborators based on their experience of working of similar plants in USSR producing a certain given product-mix. Capacity of a whole plant,....., is quite distinct from the capacity of individual machines, particularly heavy ones, ... while we are satisfied that each individual machine tool supplied by our collaborators has in fact the production capacity expected from it, the total output of the plant .....will depend upon the type of load that may be available from time to time.....It is obvious that no tests as such can be carried out on an engineering workshop doing jobing work to certify that it has 80,000 tons capacity per annum.....all that can be done logically is to project the figure of actual production so far achieved taking into account the machine

utilisation and our efficiency and make an assessment as to what can be expected with the ideal loading to be the capacity of the plant. I can confidently state that under the conditions of appropriate product-mix and efficiency of labour anticipated the plant should be expected ultimately to produce a total quantity of 80,000 tons per annum."

5.13. The Committee enquired whether such an assessment was ever made. If not, how it could be said that under conditions of appropriate product-mix and anticipated labour efficiency the plant is expected to produce at the rated capacity. In reply it has been stated as follows :—

"Certain studies made indicate that the efficiency and utilisation of manufacturing equipment installed in the Company is of the order of 20 to 25 per cent. It is also seen that a number of very large machines such as 180T capacity Centre Lathe, 6 M Planning Machine and Heavy Machining centres are never loaded with equipments anywhere near even half the weight capacity because of the present product-mix. It is reasonable, therefore, if efficiency of operations reaches 80 to 90 which is not unreasonable. It should be possible to achieve rated output, provided simultaneously the load is balanced and the product-mix is suitable."

5.14. The Detailed Project Report did not indicate the year of reaching the rated capacity of HMBP. In a written reply the Committees have, however, been informed that according to the latest exercise the Plant is likely to attain the rated capacity in 1978-79.

Heavy Machine Tools Plant

5.15. The Project Report indicates that the Plant has the rated capacity of manufacturing 278 machines weighing 10,000 M. tons. In the case of HMTP also the Project Report does not indicate the year of reaching the rated capacity. According to the Management's assessment, the Plant will attain the rated capacity in 1978-79.

Order Position in respect of the Three Plants

5.16. The following table gives the comparison of the orders in hand with the built-up capacity in respect of the three plants :—

		F.F.P. (In M. tons)	H.M.B.P. (In M. tons)	H.M.T.P. (No. of machines)
1969-70	(a) Build up of capacity	32,350	27,000	140
	(b) Orders on hand	29,721	27,000	—
	(c) Gap	2,629	—	140
1970-71	(a) Build up of capacity	48,990	35,000	197
	(b) Orders on hand	15,120	34,000	—
	(c) Gap	33,870	1,000	190
1971-72 ..	(a) Build up of capacity	59,420	38,000	245
	(b) Orders on hand	—	24,000	—
	(c) Gap	59,420	14,000	245

Note—In the case of HMTP, the figure represent the built-up capacity as indicated in the study made by the Bureau of Public Enterprises in 1967.

5.17. The table above confirms that even the capacity that has been built up which is much less than the rated capacity is not going to be utilised fully. It is also clear that the position in regard to the Foundry Forge Plant, the Heavy Machine Tools Plant is particularly critical.

5.18. With regard to the utilisation of capacity of HMTP, the Secretary of the Ministry of Steel stated, during evidence, as under :

"We regret to say that what has been stated in the audit report with regard to the orders of HMTP is factually not correct. It is our fault, Sir, that we did not correct it at the right stage. The position is that the orders for machine tools on HMTP were as follows :—

		Value
1969-70	16 nos.	104 lakhs
1970-71	25 nos.	85 lakhs
1971-72	27 nos.	143 lakhs

The tools which have been, in fact, sold from HMTP are 30 in 1969-70, 32 in 1970-71, 10 in 1971-72. That means 72 machine tools during these three years".

5.19. It is seen that despite the above correction, the fact remains that the actual position with regard to the utilisation of capacity lags much behind the rated capacity.

5.20. During evidence, the Committee pointed out that HEC was set up for the purpose of providing 1 million tons of machinery for the production of steel plant every year. According to the papers available the gestation period was 10 years. They enquired whether H.E.C. was able to provide 1 million ton machinery to any of the steel plants.

5.21. The Secretary explained that HEC plant had been largely used for making machinery for Bokaro. But it had only reached 19 to 20 per cent of its rated capacity in 1970-71 and with greatest of effort it had been able to reach the capacity of 30 per cent now. It had not been able to cope up even with the work of providing units and equipment for the Bokaro Plant. However, when fuller utilisation of capacity took place it would have the capacity to produce 1 million ton machinery.

5.22. The Committee pointed out that an assurance was extended to the country and to the Parliament that H.E.C. would supply 1 million ton of machinery for the Steel Plants every year. They enquired as to when this assurance was likely to be fulfilled. The Secretary stated as under :—

"If you allow HEC 10 years gestation period, then my answering your question will be easy. That is not the position we accept. As you have noticed yourself, the completion stage of FFP was only in 1969. And if you are going to allow them 10 years, it will take us to 1979. This is something which we cannot accept. We think that it should be able to pick up work to its full capacity in the next three or four years. So, up to date, the requirement of making steel plant machinery was with reference to Bokaro. We are already making a plant for meeting the requirements for the expansion of Bhilai, for the further expansion of Bokaro and for the three new steel plants. And an assessment has

been made as to how much tonnage is required and also a deliberate effort is being made to get the cooperation of other units which could assist in supplementing the production of HEC so that the equipment is made indigenously to the maximum extent possible. The assessment made for the amount of equipment which should be required for the three new steel plants and the expansion of Bhilai is 2½ lacs tons roughly excluding the rolling mills. And we have already identified how this should be made—electricals to be given to Bharat Heavy Electricals; certain other parts like cranes, some other Undertakings can do. So, we are having a meeting with a number of such civil and public sector undertakings on the 7th of December with a view to examine this in detail. I have said this only to assure that, whereas HEC is going to pick up its capacity, it cannot pick up the capacity in a revolutionary way. As I explained yesterday, we do hope we might be able to reach 45 per cent next year. Consistent with this, we do not want our programme to lag behind and to import anything which we can make within the country with the capacities which are available. So, this is what we are doing."

He further stated as under :—

"Our plan now is for the next ten years to increase the capacity of steel making in the country by about 10 million ingot tons, and it is our aim also to manufacture a bulk of this equipment within the country. As far as the answer to your question when will HEC by itself make those items which can be allotted to HEC for steel plants at the rate of 1 million tons per year, I think the answer is that it will make it when we can get 90 to 100 per cent of its capacity. I explained yesterday that it is our hope that it will get to 45 per cent of its capacity next year, and if that happens, it should be possible to reach 65 per cent in 1973-74, and may be that in 1974-75 or 1975-76, it might reach 80 to 90 per cent."

5.23. The Committee enquired as to what were the reasons for not reaching 90 per cent capacity in 10 years. The Secretary stated that, "actually I would not proceed on the basis of 10 years because if you say ten years, then it should be ten years from the date when the projects were completed. Stages I and II of FFP were completed towards the end of 1969. And I do not like to count ten years from then."

He further stated as under :—

"If everything had functioned efficiently, it should have been possible for us today to have attained 60—65% of the capacity. Instead, today we are struggling with 30% of the capacity. The answer to why it is so, is firstly the completion of the project has taken much longer than it should have. Secondly, there has not been good production planning. There have been then managerial inadequacies. All this had resulted in our being able to reach only 19-20% of rated capacity last year. We are trying to build up on that. We have been facing the situation in HEC where the workers have not worked to normal standards for the last 6-7 years. And if you bear with me, Sir, it is not possible just by passing an order to get the labour to start giving full capacity. Even the time punching was not in vogue in HEC until about six months ago. Everytime there was an attempt to introduce it, the industrial relations

deteriorated. That is the position. I have told you the truth, and if I wanted to seek shelter against 10 years of gestation period, I have a good answer, but I do not want to do that."

5.24. The Committee asked the Secretary if he could assure the Committee that the capacity and know-how obtaining in HEC were satisfactory and that if the problems of men and management had been tackled, HEC could be in a position to deliver machinery and equipment at the rate of 1 million tons annually.

The Secretary stated that :—

"I am generally satisfied that if HEC's capacity can be exploited fully and if the difficulties of management, labour relations, and production and planning etc. are got over, then it can very significantly help in the production of equipment for steel plants at the rate of 1 million tons per year."

5.25. The Committee find that the Heavy Engineering Corporation has been able to reach no more than 19 to 20% of its rated capacity in 1970-71 and with "greatest of efforts" it may be able to achieve this year 30% of the rated capacity. The Committee are constrained to observe that Heavy Engineering Corporation have not even been able to meet in full orders for equipment and machinery required for the Bokaro Steel Plant. The Committee understand that in taking a decision on the further expansion of Bokaro one of the considerations was to ensure that the Heavy Engineering Corporation have adequate load of work. The Committee also find that Government have sanctioned construction of three new steel plants besides expansion of Bhilai and other steel plants. The Committee see no reason why in this context Heavy Engineering Corporation should not be able to pick up the work to its full capacity in the next two or three years and provide to the maximum extent possible indigenous equipment and machinery for meeting the expansion requirements of Bokaro and other steel plants and the setting up of three new steel plants. The Committee find that the Ministry have already taken action in organising Task Forces to tackle systematically and earnestly the problems of Heavy Engineering Corporation. While the Committee appreciate the determination with which the problem of putting to full utilisation the capacity in Heavy Engineering Corporation is being tackled, of late, they feel that these efforts would have to be sustained over a number of years till all the teething troubles of the plants are overcome. Above all, the management and workers should show a sense of unity of purpose and dedication in stepping up productivity and production of this crucial heavy engineering sector project. The Committee recommend that Government should keep an unremitting watch on the utilisation of capacity of the plant from quarter to quarter and year to year so as to ensure that there is no slackening of effort at any time and at any level so that the full rated capacity of the Corporation, which has been set up with such large investment of the nation, is put to effective use at the earliest.

B. Frequent Revision of Build up capacity

5.26. The Project Reports did not indicate the build up of capacity from time to time in respect of the different plants. A group of Russian Specialists examined the build up of capacity and other correlated matters of Heavy Machine Building Plant in December, 1965 and submitted a report

on long term planning of production in that Plant. In this report the build up of capacity of the Plant was indicated as under :—

(Figures in M. tons

1964-65	1965-66	1966-67	1967-68	1968-69	1969-70
1,819·7	3,220	8,980	12,990	26,000	32,500

1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
40,500	50,500	63,000	71,800	78,100	80,000

5.27. Early in 1967 the Bureau of Public Enterprises made a study and indicated the build up of capacity of the three plants from 1967-68 to 1973-74 :—

	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
(1) F.F. P. . .							
III/I Stage . .							
Grey Iron & Non-ferrous castings .	17,110	30,244	37,238	47,647	48,000	48,000	48,000
Steel Castings .	3,480	9,070	17,670	30,975	37,450	43,000	43,000
Steel Forgings . .	2,700	7,750	13,950	20,650	28,050	31,840	33,000
TOTAL .	23,290	47,064	68,858	99,272	1,13,500	1,22,840	1,24,000
(2) H.M.B.P. .	28,400	42,900	59,200	78,700	80,000	80,000	80,000
(3) H. M. T. P. (No. of machines) .	36	86	140	197	245	269	269

(The figures of Heavy Building Plant do not include the capacity of the New Steel Fabrication Workshop with a rated capacity of 25,000 M. tons of structurals per annum).

In a profitability study made by the Corporation in August, 1967, however, the build up of capacity was indicated as under :—

(Figures in M. tons)

	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
F. F. P. .	17,831	39,000	65,475	94,140	1,17,123	1,27,818	1,35,138	1,40,998
H.M.B.P. .	26,240	32,170	43,030	58,430				
NSFW	5,760	10,730	16,170	20,270	..	..	..	..

5.28. From the above statements it is clear that the exercises made by the Russian experts in 1965, the Bureau of Public Enterprises and the Management in 1967 were substantially at variance with each other. The build up capacity indicated by the Management in 1967 was less than the capacity indicated by the Bureau of Public Enterprises up to 1970-71.

5.29. The Corporation, however, informed the Government of India in October, 1968 that the built-up capacity would be further less as indicated below :

(Figures in M. tons)

	1969-70	1970-71	1971-72	1972-73	1973-74
F. F. P. . .	39,715	48,990	59,420	73,615	81,280
H. M. B. P. . .	32,500	40,500	50,500	63,000	71,800
	1974-75	1975-76	1976-77	1977-78	1978-79
	92,250	1,12,250	1,22,620	1,37,751	1,37,751
	78,100	80,000	80,000	80,000	80,000

5.30. In June, 1969, the build-up of capacity was intimated to Audit as follows :

(Figures in M. tons)

	1969-70	1970-71	1971-72	1972-73	1973-74
F. F. P. . .	32,350	48,990	59,420	74,215	79,280
H. M. B. P. . .	27,000	35,000	38,000	50,000	67,000
	1974-75	1975-76	1976-77	1977-78	1978-79
	92,250	1,12,250	1,22,620	1,37,751	1,37,751
	80,000	80,000	80,000	80,000	80,000

5.31. It is understood from Audit that the latest build up of capacity of Heavy Machine Building Plant (excluding New Steel Structural fabrication workshop) as assessed by the Management and submitted to the Board of Directors in the 84th meeting held on 29-8-1970 was as follows :—

	M. Tons
1970-71	22,000
1971-72	32,000
1972-73	42,000
1973-74	57,000
1974-75	75,000
1975-76	80,000
1976-77	80,000

5.32. It will be seen that not only the build up of capacity has been further revised downward but the expected date of attainment of rated capacity has also been deferred from 1974-75 (as per the study of June, 1969) to 1975-76.

5.33. During evidence the Committee enquired about the reasons for the downward assessment of the build up of capacity. The Managing Director stated as under :—

> "Because different teams had made assessments. The collaborators had originally given us a particular rate of build up and the Engineer Managers who came subsequently felt that the rate of build up could be exceeded and they gave more optimistic levels of build up than the one which was given by the Russians in 1965. Now, events have actually proved that the hopes on which subsequent decisions were made had not been really maintained."

5.34. Subsequently in a written reply the management gave the following reasons for the continuous downward revisions of the build up of capacity :—

> "Inability of the Company to achieve the targets and desire to be more realistic in assessment lead to downward revision of built up capacity."

5.35. The Committee enquired whether such exercises served any purpose when they differed so widely from each other. In reply, it has been stated that "such exercises of build up capacity provide a basis from which one can operate at a given point of time." Asked as to what was the built up capacity according to the latest exercise, the management have stated that "re-assessment of the build up of production capacity is currently in progress."

5.36. The Committee regret to note that the Project Report did not indicate the build-up of capacity from year to year. The Committee find that almost every year a new exercise is being done to determine the build up of capacity. The various exercises made by different agencies are substantially at variance with each other. There has been no consistency in assessing the build up of capacity of the Undertaking from time to time and the Corporation has been making downward revision of the capacity developed or likely to be developed. The Committee are of the opinion that a realistic assessment of build up of capacity should have been done at the very inception and if it was revised subsequently, the reasons therefor and concrete action taken to obtain the rated capacity should be contemporaneously brought on record in the form of memorandum for the consideration of Board of Directors. Government should be kept contemporaneously informed of the position. The Committee recommend that Government should ensure that the project-reports for plants to be set up in future should indicate the gradual build-up of the capacity of the plants from year to year.

VI

PRODUCTION PERFORMANCE

A. **Shortfall in Production**

6.1. The table below indicates the build up of capacity as worked out by the Management in August, 1967 (except for Heavy Machine Tools Plant, in which case the Bureau's figures have been taken), targets of production, actual production and percentage of actual production to targets, in respect of the three Plants for the period from 1964-65 to 1968-69 :

(Figures in M. Tons)

Project	Rated capacity	Year	Build up of capacity as per Bureau's study/ Management's study	Targets		Actual Production	Percentage of actual Production	
				Original	Revised		to original targets	to revised targets.
1	2	3	4	5	6	7	8	9
F. F. P. (II stage) Grey Iron and Non-ferrous foundry	39,760	1964-65		—	1,572	989	—	62·9
		1965-66		8,020	3,153	2,466	30·7	78·2
		1966-67		11,050	6,131	4,053	36·7	66·1
		1967-68		19,710	8,850	5,535	28·1	62·5
		1968-69	17,831 (1967-68)	11,350	—	7,237	63·8	—
Steel Foundry . .	66,000	1965-66	39,000 (1968-69)	1,250	120	Nill	—	—
		1966-67		7,960	3,220	760	9·5	23·6
		1967-68		9,200	5,720	3,277	35·6	57·2
		1968-69		8,300	—	7,355	88·6	—
Forgings . . .	27,700	1965-66		100	—	Nil	—	—
		1966-67		970	380	84	8·7	25·5
		1967-68		4,565	1,460	513	11·2	35·0
		1968-69		2,000	—	2,050	102·5	—
H.M.B.P. .	80,000+ 25,000*	1964-65		7,758·5	7,758·5	4,061	52·3	52·3
		1965-66		9,456	9,456	10,980·2	116·2	116·2
		1966-67		9,519	19,519	14,369.2	73·3	73·3
		1967-68	26,240+ 5,760*	34,266	12,605	14,611	42·6	116·0
		1968-69	32,170+ 10,730*	30,000	—	23,852	79·2	—
H.M.T.P. . .	10,000 (278 machines)	1966-67			432(24 m/c)	104(7 m/c)	—	24·1
		1967-68	36 m/c	670(36 m/c)	512(20 m/c)	378(15 m/c)	56·4	73·8
		1968-69	86 m/c	644(33 m/c)	—	220(8 m/c)	34·2	—

*Represents the figures in respect of the new steel structural fabrication workshop.

6.2. A statement indicating the Build up of Production capacity (as reported to the Board *vide* item No. 3.21 of the Agenda for 71st Meeting) target of production and actual production for the year 1969-70 and 1970-71 is given below :—

	1969-70			1970-71		
	Build up of capacity	Plan	Actual	Build up of capacity	Plan	Actual
FOUNDRY FORGE PLANT						
I. *Grey Iron Foundry*						
(*a*) G. I. Castings	11300	11300	5937·93	13900	10750	6064·2
(*b*) Ingot Moulds	5200	2500	1638·14	6000	3000	1679·1
(*c*) G.I. Rolls	3400	1450	719·53	4100	3000	621·9
II. Steel Foundry						
(*a*) Steel Castings	9000	6750	4045·15	11800	8640	5331·0
(*b*) Steel Ingots & Synthetic Iron	—	14750*	9684·87*	—	22770*	16366·9
(*c*) Steel Rolls.	850	850	134·10	1200	600	340·9
III. Non-Ferrous Castings						
(*a*) Cu. base castings	240	134	69·65	300	98	51·1
(*b*) Al. base castings	75			90		
V. Forge shop						
(*a*) Forgings	9250	7650	5922·27	11050	12000	8634·5
(*b*) Forged Rolls	400	—	—	550	—	—
TOTAL .	39715	30634*	18466·77*	48990	38088*	22722·7

*The production of steel ingots and synthetic iron is not included for comparison with Build-up of capacity.

(Figures in tonnes)

	1969-70			1970-71		
	Build up of capacity	Plan	Actual	Build up of capacity	Plan	Actual
Heavy Machine Building Plant						
Mechanical eqpt. .	27390	17200	10357·0	36370	20954	15994·3
Structural . .	5,110	5437	7158·0	4130	11546	5170·9
Total H.M.B.P. .	32500	22637	17515·0	40500	32500	21165·2
Structural by other agencies . .	—	4363	6947·0	—	—	1943·6
GRAND TOTAL .	32500	27000	24462·0	40500	32500	23108·8

Build up of capacity for structural Fabrication Shop was not indicated.

Heavy Machine Tools Plant

No. of *Machine Tools . .	41	41	27	56	51	28

*Figures revised after audit.

6.3. The Committee pointed out that in respect of Foundry Forge Plant, Heavy Machine Tools Plant and Heavy Machine Building Plant the original targets for 1968-69 were less than the build up of capacity indicated by the Bureau of Public Enterprises/Management.

6.4. The Committee enquired as to what were the reasons for fixing the targets of production at a figure lower than the build up of capacity. In reply it was stated that :

"Tentative production programme of the three plants had been submitted to the Board and was later revised in the light of observations of the Board in their 65th meeting. The target had been submitted to the Board at their 68th meeting bringing out the considerations for fixing such targets. The actual pattern of order and manpower etc. were taken into consideration.

6.5. The Committee further noted that the original targets in 1967-68 (34,266 M. Tons) in the case of Heavy Machine Building Plant were more than the build-up capacity indicated both by the Bureau of Public Enterprises and the Management.

They enquired as to when the original targets of production for 1967-68 were fixed, whether it was before or after the assessment of the build-up of capacity by the Bureau of Public Enterprises and the Management.

6.6. In a written reply it has been stated that "the production programme for the year 1967-68 had been placed before the Board in their 59th meeting held on 4th and 5th May, 1967.

This had been made before the "Management Study".

6.7. The Committee pointed out that, either the build-up capacity as assessed by the Bureau of Public Enterprises and the Management or the targets of production as fixed or both were unrealistic. The Management stated that "optimistic target had been attempted. The working in 1967-68 had been adversely affected on account of unforeseen circumstances *e.g.* (i) communal disturbances, (ii) labour unrest".

6.8. The Committee pointed out that the actual production in the three Plants was less than even the revised targets (except in the case of Heavy Machine Building Plant during 1965-66 and 1967-68). (The actual production in 1967-68 became more than the revised target because the original target had been considerably reduced). The improvement in the percentage of achievement to original targets in Heavy Machine Building Plant during 1968-69 was partly due to fixation of lower targets as compared with 1967-68 in spite of the increase in built up capacity :

6.9. The Committee also pointed out that the total production in the Heavy Machine Building Plant was much below the build-up capacity as indicated by the Management for 1967-68 to 1970-71.

6.10. The Management explained that the main reasons for shortfall in production are :—

(i) Low productivity

(ii) Fear of making mistakes.

A management team has not been built-up, who could lay down clear objectives and work for their achievement without fear or favour of outside pressures.

Plant-wise factors which have been attributed for non-achievement of planned production are as under :—

Foundry Forge Project

(i) Non-availability of shop floor areas and equipment of production envisaged at the time of Planning.

(ii) Low Labour efficiency,

(iii) Labour unrest resulting in strike and stoppage of work,

(iv) Civil disturbances and riots,

(v) Change in basic design,

(vi) Insufficient orders for ingot moulds, rolls and non-ferrous castings, and

(vii) Training and orientation programme undertaken in the shops, thereby keeping the production low.

Heavy Machine Building Plant

(i) Under-utilisation of Plant and Machinery for want of material,

(ii) under-utilisation of men and machines for want of material and due to mechanical and electrical break-downs of machines,

(iii) low labour efficiency,

(iv) labour unrest resulting in strike and stoppage of work on many occasions,

(v) civil disturbances and riots,

(vi) insufficient orders and orders different in nature from the standard given in the Detailed Project Report,

(vii) delay in obtaining forgings and castings from Foundry Forge Plant,

(viii) inadequate availability of various bought-out items and delays in receipt of completing equipment from USSR.

(ix) Sometimes unrealistically high targets.

Heavy Machine Tools Plant

(i) Short supply of castings by the Foundry Forge Plant,

(ii) Due to development time required for the manufacture of heavy machine tools castings, the supplies were short of requirement.

6.12. The Committee pointed out that the shortfall in the production in the HMBP and HMTP had been mainly due to short supply of castings by FFP and enquired whether the castings could not be purchased from outside so as to achieve the targetted production in the Heavy Machine Tools Plant, as was done to meet the requirements of Heavy Machine Building Plant. In reply it has been stated as under :—

"Availability of intricate castings for machine tools within the country is limited. Orders had been placed on some indigenous parties but the supplies have not been satisfactory both with regard to quality and delivery. Effort to develop sources within country are continuing."

6.13. The Committee on Public Undertakings (1967-68) in para 52 of their 14th Report on HEC Ltd.

"The Committee view with concern the substantial shortfall in production in the F.F.P. as compared to the annual targets fixed. The shortfall in production not only affects the working of this plant but also the production in the HMBP and the HMTP which depend on this plant for the supply of castings and forgings. The satisfactory working of this plant therefore assumes added significance. The Committee, therefore, desire that steps should be taken by the management to fix realistic targets taking into consideration all the factors and to ensure that the targets so fixed are actually fulfilled."

6.14. In their reply dated 9th October, 1969, Government stated as under :

"Noted. Efforts are being made to fix more realistic targets of production. It is felt that with experience, realisation of targets would be better."

6.15. The Committee invited the attention of the Management to their earlier observation that fixing of unrealistically high targets was one of the reasons for non-achievement of planned production in the Heavy Machine Building Plant and enquired as to why there were being resorted to. According to the Management, they were either deliberate due to error in judgment of the capability of build up of capacity. The targets had been fixed with a view to provide an element of greater effort. The performance had been below the expectations due to various deficiencies. In this connection the Chairman, HEC during evidences stated as under :—

"Nobody could anticipate the amount of trouble that was going on in that organisation and that there would be communal disturbances. Nobody could anticipate that we would have continuous problems between labour and management. Nobody anticipated that the changes will be so fast. The management perhaps thought that they could produce, but the changes came so fast."

6.17. The Chairman, HEC however felt hopeful and stated that :

"Technical Director has been appointed and the Managing Director has also been appointed and we are looking for a Commercial Manager. We have tightened up our security arrangement and it has a very useful repercussion. We have also requested the Government to appoint a Personnel Director. Now, we are able to take steps to put our production control system right. We have appointed a special officer for computerisation. Not that our predecessors did not know. There was not time enough to be able to settle down."

6.18. The Committee are forced to the conclusion that the Heavy Engineering Corporation have suffered mainly because they have lacked an organizational set-up which could bring up in an integrated manner the three complexes of Foundry Forge Plant, Heavy Machine Building Plant and Heavy Machine Tools Plant which constitute the Heavy Engineering complex.

6.19. As already pointed out by the Committee in their earlier Report [14th Report (1967-68)—para 62], the delay in setting up the Foundry Forge Plant and bringing up its production capacity have acted as a serious constraint on the development of manufacturing capacity in Heavy Machine Building Plant and Heavy Machine Tools Plant. The Committee have elsewhere in the Report highlighted the deficiencies noticed in the working of the Foundry Forge Plant and other plants and desire that immediate action should be taken by Government to set right these shortcomings in the interest of achieving production according to the installed capacity.

6.20. As regards other constraints on production such as inadequate supply of raw materials, under-utilization of men and machinery, the Committee have no doubt that these difficulties are not insoluble and can be resolved by skilled management and advance planning.

6.21. The Committee are much impressed by the systematic approach which is being followed in recent months by Government in tackling some basic issues like standardisation of machinery and equipment required for steel plants, which are to be manufactured in the Heavy Engineering Corporation, constitution of task forces to resolve problems and bottlenecks in the interest of smoother functioning of the plants and above all, a determination to improve the existing low utilization. The Committee have no doubt that if such sustained efforts continue to be made, the Heavy Engineering Corporation should before long be able to deliver the machinery and equipment for steel plants in time and thus put to productive use the built up capacity.

B. Off-loading of works by HEC

6.22. The statement giving below indicates the quantum and value of items off-loaded during the years 1967-68 to 1970-71.

Foundry forge plant

Year	G.I. Casting		Steel Casting		Forgings	
	Qty. in tonnes	Value (Rs. in lakhs)	Qty. in tonnes	Value (Rs. in lakhs)	Qty. in tonnes	Value (Rs. in lakhs)
1967-68	..	..	..	..	..	..
1968-69	514.95	8·78	58·57	2·78	—	—
1969-70	1,651·99	43·87	2,756·24	124·32	553·00	15·37
1970-71	560·02	7·65	153·45	6·22	—	—
Total ..	2,726·96	60·30	2,968·26	133·32	553·00	15·37

Heavy Machine Building Plant

Year	Mech. equipments on other components/ off loaded suppliers		Structural fabricated by contractors/ancillary industries	
	Qty. in tonnes.	Value (Rs. in lakhs)	Qty. in tonnes.	Value (Rs. in lakhs)
1967-68	13,661·00	1,092·79	4,344·90	80·62
1968-69	1,094·10	47·05	9,740·70	209·42
1969-70	3,310·97	115·11	6,947·00	149·92
1970-71	—	—	1,943·60	45·28
TOTAL	28,066·07	1,254·95	22,976·20	485·24

6.23. The Committee enquired as to why the plants could not undertake the manufacture of items that had been off-loaded. In a written reply the management have stated as under :—

"As the build up of production within the plants was not according to the estimates on the basis of which orders from customers had been accepted, in an effort to meet the requirements, it was considered expedient to off-load certain quantum of work on other suppliers. Normally, the Foundry Forge Plant should have commenced production ahead of the other two plants in order to feed the requirements of castings and forgings. There had been delay in the construction of Foundry Forge Plant."

6.24. The Committee wanted to know the extent to which the capacity of the plants remained unutilised during these years and how the management justified the off-loading of manufacture keeping in view the idle capacity in the plants. The management have furnished the following reply :—

"Capacity utilised in the plants was of order of 10 to 15 per cent and has now reached approximately 25%. It was precisely because of low productive efficiency, that off-loading had to be resorted to. Had the efficiency been higher it might not have been necessary to off-load, or to off-load to a lesser extent."

6.25. The Committee enquired whether the original targets/revised targets of production fixed from year to year also envisaged the off-loading of work to outside sub-contractors. If so, how the actual production of sub-contractors compared with that envisaged in the targetted production.

6.26. In reply it has been stated that the target of production envisaged fabrication work by other agencies as under :—

	Quantity envisaged tonnes	Actual production tonnes
1968-69	8,215·0	9,740·7
1969-70	4,363·0	6,947·0
1970-71	Not envisaged	2,180·0

The Committee enquired as to why it was necessary to envisage such off-loading during 1968-69 when original targets of production were less than the build-up of capacity as assessed in August, 1967 by the Management themselves. The Chairman of the Corporation explained that :

"off-loading was considered necessary for timely supply of structurals".

"Originally there was no intention to provide for off-loading of these structurals. We have all the facilities provided to produce the goods as mentioned in the DPR. This off-loading was done to cut certain schedules. When the manufacture of Bokaro equipment was accepted it was visualised that to meet the schedule, HEC may have to off-load certain items, not only structurals but even castings and forgings. It was in pursuance of this that off-loading was done. In the normal course we shall develop the capacities we have and will not continue off-loading".

6.28. The Chairman of the Corporation further explained that :

"Off-loading is not a usual feature but sometimes it has to be done to meet the commitments which we have already made. If we have problems in the organisation we have to resort to some sort of off-loading".

"We have an ancillary unit set up nearby and, whenever we take large orders, there are always certain items which are outside the profile of the manufacture of the H.E.C. and it is profitable to get from the ancillary unit so as to increase the over-all turnover of the H.E.C. The customer would like to place orders on one party as the main contractor. This also has to be borne in mind".

He added that

"With our improved production planning, long-range planning having been done, it should progressively be not necessary for us to take crisis-action to off-load as we had to do in the past".

6.29. The Committee enquired whether the management was in a position to substantiate that they applied their mind to these aspects and deliberately placed these orders with the ancillaries or whether, purely because they wanted to work upto a time-schedule and they were not sure of meeting the consumers' demand, that they off-loaded. The Chairman, HEC stated as under :—

"I would like to divide this point in two different periods, the first period when the ancillary unit did not even exist and we had to get things done because of the commitments made with certain customers. But later on, as a matter of policy, the Government decided that we should develop ancillary industry around all the public sector organisations and that the jobs which could be done by the ancillary industry should be off-loaded to them and that we should utilise that capacity for something else.

So, from 1969 onwards, what has been off-loaded, is to the extent the ancillary industry can get from us so that we can utilise the capacity for ourselves for something better. This was a deliberate decision not only of the management but also of the Government".

6.30. The Committee pointed out that while the policy might be correct in regard to ancillaries, would Government insist on off-loading work to ancillaries if the management was not in a position to take on substitute works which would make for effective and full utilisation of the capacity of H.E.C. The Chairman of the Corporation replied "Obviously, we will ourselves not off-load something which will mean that our capacity will lie idle. That question has not arisen". He added : "There is not only a proposal but a decision to increase the capacity of steel production in the coming 6-7 years and the Government have already sanctioned three new steel plants at Visakhapatnam, Hospet and Salem. They have sanctioned Bokaro expansion and Bhilai expansion. We have made analysis—we have been on this job—and we feel that the amount of equipment required for that period is so large that the H.E.C., even if it works in a normal way, will not be able to meet it. This is a tentative decision which we have come to. We are still examining it, to be more realistic.

It is not yet final. It may be examined. But the tentative conclusions are that the total requirement is so much that we will not be able to meet. It will depend upon the decision as to whether we would be asked to co-ordinate that or the Government will put up a separate organisation. Then, this question of off-loading will not arise. If the Government decides that the H.E.C. has the know-how, the wherewithal of drawings and designs and all that, and that they can easily do it, then we would perforce have to off-load to an organisation in the public and private sector outside the H.E.C." Asked whether the Corporation was utilising the capacity released by off-loading for productive purposes, the Chairman of the Corporation stated :

> "We are doing so. In fact, as you would know, we are not even able to meet the demand. We have so much load. There is no difficulty of finding work. At present, the work is enough to keep up busy. We are not able to meet our requirements. So, we are utilising every bit of capacity we have".

6.31. The Committee are concerned to find that only 10 to 25% of the capacity of the plants had been utilised. They are surprised to note that even those percentages had been worked out only after taking into account the work off-loaded to ancillary industries/sub-contractors. In spite of the fact that 75 to 90 per cent of the capacity of the plants remained unutilised, the Corporation off-loaded equipments, components, structurals and castings etc. worth about 19.5 crores of rupees during 1967-68 to 1970-71. Although the targets of production envisaged off-loading of certain quantities, it was noticed that the atual quantities off-loaded were much more than that envisaged. The off-loading of works showed also an upward trend upto 1968-69 because of low productive efficiency. It has been admitted by the Management that "had the efficiency been higher it might not have been necessary to off-load at all or to off-load to a lesser extent". Off-loading had also to be resorted to because of delay in the construction and commissioning of the Foundry Forge Plant. In an effort to meet the requirements it was considered expedient to off-load certain quantum of work to other suppliers. The Committee have already stressed that the production in the Fountry Forge Plant should be geared up on a priority basis so that the production in the other two plants does not suffer on acount of the failure of FFP to meet the requirements in full and in time.

6.32. While the Committee feel that it might be economical to off-load certain simpler items to ancillaries so that the production capacity of the plants could be utilised on the manufacture of complicated and heavier items, the Committee are unhappy that because of organisational failures, crisis-action had to be taken to off-load even heavy structurals, castings and forgings in order to meet the commitments already made.

6.33. The Committee note that as a result of certain steps taken by the management, off-loading of works has been considerably reduced during the year 1970-71. They desire that constant efforts should be made to see that off-loading is avoided as far as possible and only such items are off-loaded which are clearly outside the profile of H.E.C. or where it is in the overall interest of the Corporation and industrialisation policy to get them manufactured in ancillary units.

Off-loading of Some Important Items

(i) *Off-loading of castings* :

6.34. In early 1967 it was felt by the Management that the Foundry Forge Plant would not be able to meet the full requirements of Heavy Machine Building Plant for castings. Accordingly it was decided in June, 1967 that castings weighing less than 5 M. tons each (subsequently revised to 3 M. tons on 16th September, 1967) should be off-loaded to outside parties. Steel castings and grey iron castings to the extent of 2169 M. tons and 851 M. tons valued at Rs. 49.72 lakhs and Rs. 13.33 lakhs respectively were off-loaded by the Heavy Machine Building Plant against tenders invited from time to time.

6.35. In January, 1968 the Board of Directors decided that henceforth off-loading of castings and forgings should be done by the Foundry Plant only. Accordingly, a total quantity of 2,085 M. tons of steel and grey iron castings valued at Rs. 54.23 lakhs was off-loaded to various parties up to June, 1969.

6.36. It was decided by the Management to adopt the following procedure for off-loading of castings.

(a) (i) A panel of suppliers for limited tender enquiry should be prepared on the basis of tenderers who responded to an open advertisement to be issued in this regard.

(ii) The preliminary selection of prospective tenderers for giving a particular work should be made by a committee formed by the General Manager including a representative of Finance.

(iii) The main consideration in arriving at a decision for the choice of prospective tenderers should be the previous performance of the firms.

(iv) The selection of 5/6 firms at a time should be made in such a way so that all firms get opportunity for quoting for orders.

(v) Final selection of the successful tender out of the preliminary selection of 5/6 competitors should be made by a Tender Committee.

6.37. It is seen that in the preliminary selection of prospective tenderers for drawing up of a panel of probable suppliers, the Finance Branch of the Plant was not associated as required.

6.38. The Committee enquired as to why the prescribed procedure was not followed. In reply it has been stated as under :—

> "As the limited tender was confined to a group of 5 or 6 parties, selected from out of a penal drawn up on the basis of an open advertisement, there may not be any objection for initial selection of 5 or 6 parties based on their performance capacity and technical ability, when at the time of final selection, the member from Finance was duly associated".

6.39. The Committee further pointed out that in each case, the tenders were invited from 4/5 firms only on the plea of availability of limited number of drawings (except in two cases in which 13/18 parties were asked to submit the tenders). Out of the total quantity of 2085 M. tons of steel and grey iron castings off-loaded, the prospective tenderers for a

quantity of 901 M. tons valued at Rs. 12.54 lakhs were not afforded the facility of inspecting the drawings before tendering.

6.40. The Committee pointed out that it should not have been difficult for an organisation of the magnitude of Heavy Engineering Corporation to make arrangements for the duplication of technological drawings in order to reap the benefits of competition. They, therefore, enquired as to why arrangements could not be made for the duplication of technological drawings so as to invite larger number of firms for giving quotations and thereby reaping the benefits of greater competition. They further enquired as to how the facilities for inspection of drawings by a much larger number of firms in the two cases mentioned here were extended when in other cases this could not be done and why similar arrangements could not be made in other cases also ?

6.41. In reply, the management have furnished the following information :—

"As per the decision of the Management 5 to 6 parties were required to quote for a tender. But as the tonnage tendered was quite substantial from 5th tender of steel castings and 6th tender of iron castings, FFP on its own undertook the task of showing large number of drawings to a large number of parties in the shortest available time although not more than 5 copies of each drawing were available. The facility for inspecting the drawings was given to the firms by making them available set-wise in the Production Planning Department of FFP. This was done in order to overcome the difficulties regarding the production of large number of copies of the same drawings in a very short period.

6.42. Further, Steel Furnace Owners Association was also requested to assist FFP in locating suitable manufacturers of the tendered items. In some cases, all the drawings wherever possible were sent to the office of the Steel Furnace Owners Association at Calcutta for examination. Therefor, almost all reputed manufactures in India were given opportunity to see our drawings and quote for the items".

6.43. It is understood from Audit that from July, 1969 to September, 1970 the following further off-loadings of G.I. castings and steel castings were made :—

	Quantity (M. tons)	Value (Rupees)
G.I. Castings ..	2,383·555	44,34,051
Steel Castings	874·934	64,82,037
	3,258·489	109,16,088

All the off-loadings mentioned above were made by invitation of limited tenders. Each time tenders were invited from 7 to 12 parties.

6.44. The Committee regret that the management did not follow the procedure which they themselves had decided to adopt for the off-loading of castings. Though according to the procedure the preliminary selection of prospective tenderers for giving a particular work should have been made by a Committee formed by the General Manager including a representative of Finance, they, however, find that the Finance Branch in the Plant

was not associated in the preliminary selection of prospective tenderers for drawing up of a panel of probable suppliers. Again, tenders were invited from 4/5 firms only on the plea of availability of limited number of drawings, whereas according to the procedure prescribed a selection of 5/6 firms at a time was to be made in such a way so that all firms could get the opportunity for quoting for orders.

6.45. The Committee feel that the benefit of greater competition should have been secured by making arrangements for duplication of drawings and inviting larger number of firms for giving quotations instead of showing drawings to a limited number of parties at the Plant. The Committee stress the need for strict observance of a procdeure for off-loading of works which would make for the widest possible competition.

(ii) *Off-loading of Structurals* :

6.46. Although the Heavy Machine Building Plant was essentially meant for manufacture of equipment structurals, it undertook the supply of structurals for the buildings etc. required for Heavy Machine Tools Plant and Foundry Forge Plant. As Heavy Machine Tools Plant was pressing for delivery of all structurals by March, 1965 and as it was felt in 1964 that Heavy Machine Building Plant would not be in a position to deliver the building structurals by the stipulated time, it was decided in November, 1964 to employ private contractors to get the work done by allowing them certain facilities. Accordingly, orders were placed on three private firms and during the period from December, 1964 to April, 1966, a total quantity of 3,415 M. tons of structurals was not fabricated at a cost of Rs. 11.79 lakhs.

6.47. The Committee enquired whether the structurals fabricated by outside contractors were used by the Heavy Machine Tools Plant immediately on receipt and if not, the date of receipt and date of utilisation ?

In reply* it has been stated that :

"In the beginning of the work, there was a time gap upto 6 months, between the delivery and consumption of the structurals, but when the tempo of erection picked up the consumption was immediate".

6.48. In April/May, 1966, repeat orders were placed on the same firms and a further quantity of 2,290 M. tons was got fabricated at a cost of Rs. 7.69 lakhs. These structurals were required to be fabricated within a period of six months for the 6th Blast-furnace complex of Bhilai.

6.49. The Committee enquired as to when the order from Bhilai was received and whether it was not possible to assess the requirements for structurals in time so as to award the work after invitation of tenders. It was further enquired whether the supplies were made by the contractors in time and utilised immediately on receipt. In reply the Management have stated as under :—

"Yes. The manufacturing work orders for the 6th Blast Furnace Complex were opened in April 1965. However, a formal contract has still not been issued.

*Documents in support of the statement were not shown to the Audit.

The time gap in erection after receipt of structurals by Bhilai has not been checked up. There were delays in supplies from contractors."

6.50. In justification of the repeat orders placed in April/May, 1966, the Management have stated (February, 1970) as follows :—

"In view of the urgency of the requirement it was decided that this work may be given to the existing contractors..... This was done with the approval of Financial Adviser and Chief Accounts Officer and Chairman. The Management was, however, fully that this was not a desirable procedure but had to be adopted in view of the urgnecy."

The reasons for not placing the repeat orders for a small quantity to meet the immediate requirement and placing the orders for the balance quantity after inviting open tenders were, not on record. In this connection the Financial Adviser and Chief Accounts Officer in his Quarterly Financial Review for the period ended December, 1966 observed as follows :—

"As the award of work without calling for tenders is not in order, the Project Authorities concerned have been advised that the present arrangement should not be continued further."

6.51. The Committee pointed out that repeat orders should have been placed for a small quantity to meet the immediate requirement and orders for the balance quantity placed only after inviting tenders. The Management stated that :—

"It was aware that this was not a healthy practice and had to be adopted in view of the urgency. However action was taken to call for tenders in respect of the requirement of structurals at later stages. The quantity of 2200 tonnes was distributed among three fabricators and represents work for a few months only".

6.52. In early 1967, fresh tenders were invited; the rates obtained therefrom were lower than the rates allowed to the contractors earlier. The work was divided into five categories and a total quantity of 10,381 M. tons was got fabricated by 5 firms at a cost of Rs. 30.26 lakhs up to April, 1969.

6.53. The structurals off-loaded by Heavy Machine Building Plant were mostly building structurals for the fabrication of which this Plant was not normally designed. Subsequently the New Steel structural Fabrication Workshop was commissioned in November, 1966 as a part of this Plant. The private contractors did the fabrication work within the plant area with the help of the equipment and other facilities made available by the Corporation. Even after commissioning of the New Steel Structural Fabrication Workshop in November, 1966 the Corporation went on off-loading the work and actually got a quantity of 10,381 M. tons fabricated by the private firms up to April, 1969 on the ground that adequate crane facilities did not exist in that shop at that time.

6.54. Fabrication of structurals by outside contractors working within the plant premises was continued after April, 1969 also and a quantity of 14091.46 M. tons was got fabricated at a cost of Rs. 41.21 lakhs during May, 1969 to October, 1970.

6.55. The Committee enquired whether (a) further off-loading was also done due to inadequate crane facilities in the New Steel Structural Fabrication Workshop. (b) If not, the reasons therefor. (c) If so, why the installation of adequate cranes took more than 3 years even after the commissioning of the workshop. and (d) whether the off-loading of structurals had been stopped from March, 1970 onwards :

The Management stated in reply :—

"That the off-loading of structurals had not been stopped, the contract within H.E.C. premises had been discontinued and the work was being done by Ancillary Industries. As a temporary measure, three ancillary units had put up additional facilities in H.E.C. premises also for fabrication".

6.56. The Committee find that although 3,415 M. tons of structurals were got fabricated from private firms at a cost of Rs. 11.79 lakhs on the plea that Heavy Machine Building Plant was not in a position to deliver the building structurals to the HMTP and FFP by the stipulated time; actually there was a time gap of about 6 months between the delivery and consumption of the structurals in the initial stages of erection.

6.57. The Committee further note that whereas the manufacturing work order for a quantity of 2,290 M. tons of structurals for the 6th Blast Furnace Complex, Bhilai, was opened in April, 1965 without calling for tenders on the plea of urgency there had been a delay in the fabrication of structurals.

6.58. It appears to the Committee that the plea of urgency for off-loading the work of structurals can hardly hold good in all cases. It would have obviously been in the interest of Corporation to examine each case more thoroughly with reference to its own capability and the realistic delivery schedule for each work so as to undertake the fabrication to the maximum possible extent in the Corporation itself.

6.59. The Committee are at a loss to understand why the Corporation kept on off-loading fabrication of structurals even after commissioning of the new steel fabrication shop in November, 1966 on the plea that they did not have adequate cranage facilities. The Committee have pointed out elsewhere in the Report that the Heavy Engineering Corporation have an excess number of cranes and many of them are not being utilised at all. Even if these existing cranes were not suitable for the work required, the Committee cannot understand why it was not found possible to arrange either for the indigenous manufacture of thd requisite cranes or their import, in the interest of production.

6.60. The Committee are also concerned to note that a private firm is being allowed to do fabrication work within the premises of the Corporation by using the facilities made available to them by the Corporation. It is not clear, if a private party can at all be allowed to undertake such work within the premises of a public undertaking; the more pertinent question is as to why the Corporation could not put its own resources to use in fabricating the job.

6.61. The Committee would like Government to look into the matter immediately and inform them of the action taken within three months.

(iii) *Off-loading of equipment*

6.62. The Heavy Machine Building Plant has also off-loaded some equipment relating to Bend and Valve assemblies of Coke Oven Batteries, Slag Ladle Car, Points and Dies Steel, Coke Oven Doors, Auto dump cars and Iron Ladle cars to outside parties mainly on account of the fact that the manufacturing programme of the Corporation could not accommodate these items which were required to be delivered to Bokaro Steel Ltd. Up to June, 1969, 18,674.784 M. tons of equipment (including components/completing equipment) have been off-loaded. Out of this 4,687.240 M. tons have been off-loaded at Rs. 159.53 lakhs. The price for the balance 13,987.544 M. tons off-loaded to Garden Reach Workshops Ltd. and Central Inland Water Transport Corporation Ltd. relating to the Bokaro Steel Ltd. and Bhilai Steel Plant has not been settled so far.

6.63. The Committee enquired whether the price for the quantity off-loaded to Garden Reach Workshop Ltd. and Central Inland Water Transport Corporation had since been settled. The Management replied in the negative and stated that :—

"The matter was being referred to Bureau of Public Enterprises".

In regard to the reason for the non-settlement of prices, the witness stated :—

"What we are prepared to pay is much lower than what they want and the matter is being referred under the procedure laid down by Government to the Bureau of Public Enterprises. In fact, the letter to them is going today or tomorrow. The data has already been supplied to them."

6.64. The Committee pointed out that the matter has been pending for quite some time *i.e.*, since 1969 and the letter was going only "today or tomorrow". The witness replied that :—

"We kept on saying that we would offer only Rs. 8900 whereas they kept on saying that they wanted Rs. 13,000."

The Chairman, H.E.C. explained that :—

"The real difficulty in this price has come because most of the equipment for Bokaro is coming from Russia and they do not give itemised cost or price. They give a total by tonnage, which is very misleading. Small items and big items are clubbed together and they say so much per ton. And then when you come to details, when you off-load, then the argument will start that it is more expensive and all that. We also came to the conclusion that we cannot continue this argument since both are public sector undertakings."

6.65. The Committee regret to note that the prices for a quantity of 13,987.544 M. tons of equipment off-loaded to Garden Reach Workshops Ltd., and Central Inland Water Transport Corporation Ltd.,—two Undertakings in public sector—relating to Bokaro Steel Ltd., and Bhilai Steel Plant in the year 1969 have not been settled so far. One of the main reasons for delay in the settlement of price was that the collaborators had not given itemised cost or price for the equipment. The collaborators charged by tonnes for the entire plant and machinery without making distinction between intricate and simpler parts of manufacture. The Committee have elsewhere

recommended that the Ministry/Bureau of Public Enterprises should issue guidelines making it obligatory on all public undertakings to see that the price of main items of equipment and machinery supplied by collaborators is mentioned in a statement attached to each such agreement.

6.66. The Committee desire that the Ministry/Bureau of Public Enterprises should evolve a well defined procedure so as to ensure expeditious settlement of prices between public undertakings.

(iv) *Off-loading of Patterns*

6.67. In August, 1966 it was decided that due to sudden pressure of work in the Pattern Shop of the Foundry Forge Plant, smaller patterns requiring less skill should be off-loaded to outside parties. Against an advertisement issued to find out the parties who could undertake the work, offers from 45 parties were received (32 parties having their own shops and the remaining 13 parties intending to establish the shops later). Out of 20 parties who were asked to give their quotations by 15th October, 1966, 4 parties responded and the quotations from 2 were found reasonable with reference to the estimated cost as worked out by the Pattern Shop. Accordingly, trial orders were placed on two firms in December, 1966.

6.68. In March, 1967, the system of procuring small patterns through open tenders was discontinued for the reason that it was not possible to ask all the parties to quote for the same job due to the availability of only one technological drawing for each pattern. During the period from 1965-67 to 1968-69, patterns of the value of Rs. 6.33 lakhs were ordered from outside parties which included orders to the extent of Rs. 5.54 lakhs placed on one single firm—M/s. Indo Engineering Corporation for the reason that it had large capacity and was declared by Government as ancillary industry for pattern making.

6.69. The Committee pointed out that apparently the off-loading would have been resorted to ensure timely availability of patterns. They enquired whether the supplies were made by the outside parties, according to the delivery schedule.

6.70. In a written *reply the management have furnished the following information :—

> "We had off-loaded 281 patterns which could not be accommodated in the production of our Shop during this period. By and large, all patterns were supplied in time. Wherever the delay occurred, it was mostly due to lack of suitable personnel in our Inspection Department."

6.71. The Committee enquired whether it was not possible for the duplication of technological drawings and thus reap the benefit of competition and how much time and cost was involved in duplication of these drawings. The Management have stated as follows :—

> "The normal procedure of procurement of bought out and manufactured items do not give any scope with Technologist to control the production of patterns which is quite different and sophisticated in nature.

*Local verification by Audit indicated that out of 236 patterns for which details were available only 41 patterns were received in time.

These are manufactured with close collaboration of a skilled pattern maker with an able Technologist.

The technological drawing required for pattern making are prepared by Technologists after carefully considering all the facilities available in the Shop, thereby deciding the method of manufacture. This method, is superimposed on the blue print by elaborate colour patterned drawings. Therefore, it is not possible to make a large number of duplicate copies.

As pattern making is a very intricate and specialised job, it could be done only by persons having very long experience. The factor limits the desired number of competitors as compared to normal bought out items. The experience drawn from the difficulties involved in the procurement of pattern promoted us not to go into the long and tedious work of making large number of copies of the coloured technological drawings."

6.72. It is seen that during April, 1969 to September, 1970 the following further off-loading of patterns was made :—

(i) M/s. Indo Engineering Corporation	..	Rs. 1,27,000
(ii) Others		Rs. 23,000

6.73. The Management have stated that "further off-loading during the period of April 1969 to September, 1970 was necessary because pattern shop could not handle a large number of urgent items at a time."

The Committee enquired whether the reasonableness of the rates paid to M/s. Indo Engineering Corporation was checked by obtaining quotations from certain other parties also for similar works.

In reply it has been stated as under :—

"Although pattern is basically an item of manufactured timber, the intricacy and specialisation of job limit the number of reputed manufacturers in the country. In fact, regular pattern making concerns as such were not existing in the country. We had on our own initiative asked experienced Pattern Makers to come forward to accept to manufacture our patterns at their premises with our technological guidance as far as possible.

Due to the facts explained above, it was not possible to get regular quotations from pattern making concerns. Therefore, we had to carefully devise our own method of pricing the pattern for off-loading purpose".

6.74. The Commitee feel that as pattern making is a very intricate and specialised job, earnest efforts should be made to develop self-reliance.

6.75. The Committee consider that, where it becomes inescapable to off-load pattern making to outsiders, the Heavy Engineering Corporation should draw up, after careful investigation, a panel of reliable firms who can do the job so that the Corporation has the benefit of competitive quotations in placing orders.

C. Delay in the Execution of Orders

6.76. The following statement indicates the quantum of orders outstanding according to original commitment and also revised commitment for each

Plant for the period upto 31st August, 1971.

Year	Outstanding as per original delivery.		Outstanding as per revised delivery.	
	Tonnes	Value Rs. in lakhs.	Tonnes	Value Rs. in lakhs.
1	2	3	4	5
Foundry Forge Plant				
1966	31·27	3·94	—	—
1967	361·75	22·58	—	—
1968	1,004·75	30·25	—	—
1969	976·89	53·41	203·73	16·30
1970	2,242·85	107·33	2,007·38	90·94
1971 ..	5,173·09	180·36	5,805·25	194·58
	9,790·60	397·87	8,016·36	301·82
Heavy Machine Building Plant				
1966	613·09	45·38	206·55	12·33
1967 ..	970·62	73·86	310·18	22·23
1968 ..	1,881·66	165·19	296·18	31·66
1969	2,612·05	282·47	2,203·35	226·69
1970 ..	20,508·71	2,025·35	16,494·80	1,638·27
1971 ..	37,184·23	3,971·87	44,244·47	4,642·02
	63,691·16	6,564·12	63,755·53	6,573·20
Heavy Machine Tools Plant				
1968	82·04	11·02	—	—
1969	—	0·52	—	—
1970	41·03	8·18	69·03	10.69
1971	496·18	123·47	567·18	138·43
	619·25	143·19	636·21	149·12

6.77. The Committee pointed out that the expansion of some of the existing steel plants and expansion of and setting up of other industrial complexes was being delayed on account of long delays being caused by HEC in the supply of machineries against orders placed long back. The Committee enquired whether any assessment of the direct impact of such delays on the expansion of the existing steel plants or the completion of other industrial complexes had been made. In a written reply the management have furnished the following information :—

"Major orders for which there have been delays in supply of machineries are as under :—

Name of customer	Description of order
(*i*) Metal & Steel Factory Ishapur	Modernisation of 28" Bar Mill.
(*ii*) Oil & National Gas Commission	3 DB Oil Drilling Rigs.
(*iii*) National Mineral Development Corpn.	Crushers & Mobile Equipment for :— (*i*) Kiriburu Iron Ore Project. (*ii*) Bailadila Iron Ore Project. (*iii*) Bhavnathpur Project.
(*iv*) Bhilai Steel Plant ..	Equipment & Structurals for 6th Blast Furnace Complex.
(*v*) Bokaro Steel Limited	Equipment for 1·7 million tonnes stage.
(*vi*) Hindustan Cables Ltd.	Lead Extension Press and Cable Armuring Machine."

The Management have added that "No assessment of the exact impact of such delays has been made. However, we are aware that serious delays in commissioning of various projects has occured as indicated above."

6.78. In 1968 a study was made by a Technical Team comprising of officers of the Bureau of Public Enterprises and the Directorate General of Technical Development. The study Team was led by Shri S. S. Jagota who subsequently joined the H.E.C. as Deputy Chairman and took over as Chairman on 6th November, 1970. During discussion with the Team the then Chairman indicated that he was rather perturbed about the delays in the delivery that had occured in respect of several important orders. He desired that the following cases should be examined by the Team.

(i) Ishapore Bar Mill Order from DGOF.

(ii) Mountain Gun Carriage Order from DGOF.

(iii) Gun Barrel order from DGOF.

(iv) Oil and Water Drilling Rig orders from ONGC and state Government.

(v) Delay in the installation of 6480 tonnes Press in FFP.

(vi) Supply of equipment for Bokaro Steel.

6.79. The Technical Team noted certain weak points in the organisation which required immediate attention. The Report was submitted by them in January, 1969.

6.80. The Committee enquired as to what action had been taken by the Management on the various observations/recommendations contained in the Report of the Technical Team. In a written reply it was stated that "The implementation of the corrective measures against the deficiencies brought out in the Report is a continuous process and these are kept in view". Specific steps taken by the management against each deficiency are indicated in Appendix II.

6.81. During the evidence relating to the examination of HEC the Committee on Public Undertakings (1967-68) were informed that there were difficulties in the procurement of raw materials and designs and drawings and due to these factors there were delays in the execution of orders. It was stated that the Corporation had re-organised the concerned departments *e.g.* the Planning Department, Engineering Departments and the Stores and Purchase Departments to avoid the bottleneck in procurement.

The Committee on Public Undertakings had observed in para 66 of their 14th Report on HEC (1968-69) as follows :—

> "The Committee regret to note that it should have taken the Corporation so long to realise the deficiencies in these departments and to take necessary remedial measures. They trust that it would at least now be ensured by the Corporation that as far as possible no work is held up or machinery or labour remained idle for want of materials."

6.82. The Committee enquired as to how far the reorganisation of these departments had been helpful in giving impetus to production and avoiding undue delays. In a written reply it has been stated that "The Production of Mechanical Equipment in HMBP during 1970-71 has been more than that of 1969-70 and to that extent there is improvement in working.

6.83. There are still difficulties in timely procurement of all materials although the position has improved. Bottlenecks in the Engineering department have been largely eliminated."

6.84. The Committee on Public Undertakings (1967-68) in para 72 of their 14th Report on Heavy Engineering Corporation Ltd., observed as follows :—

> "The Committee are unhappy over the serious delays in the execution of orders which not only affect production in Heavy Engineering Corporation but also the manufacturing programme of their customers. Such delays are also likely to result in financial loss by way of penalty for non-delivery of products according to schedule. In case the delays in the execution of orders persist, the customers will have second thoughts before placing orders on Heavy Engineering Corporation. This the Corporation can ill-afford at present when it is already short of orders. The Committee, therefore, desire that immediate steps should be taken by the Corporation to ensure that the delivery dates are adhered to."

6.85. In reply to this recommendation it was stated that the following steps had been taken to ensure that the delivery dates were adhered to :—

(i) Supply position of castings and forgings from Foundry Forge Plant was improving with the progressive completion of the Project.

(ii) Orders had been placed on outside parties for supply of castings and forgings.

(iii) Introduction of incentive schemes is under consideration to improve productivity.

(iv) With the experience gained more realistic delivery dates were being quoted.

(v) Organisational deficiencies were being examined and remedial steps taken.

6.86. The Committee enquired as to what extent the above steps had been helpful in avoiding delays in the execution of orders during 1967-68 to 1970-71. In a written reply, the management have furnished the following information :—

"(i) There are still delays in execution of orders. There has been some improvement in this respect and still more improvement is necessary.

(ii) Supplies from FFP have increased but this has to be stepped up further.

(iii) Experience of supplies of castings and forgings from trade both in respect of quality and delivery schedule has indicated that supplies can be depended only from a limited number of parties and that too for less intricate castings. A number of items obtained from trade had to be manufactured in the plant due to poor quality of supplies.

(iv) Incentive scheme has not been introduced in all the plants. Preparatory steps are now in hand. An integrated time keeping system with the aid of time punching clocks has been introduced. Time booking is being introduced. Training of supervisors is in progress.

(v) There have been changes in Management during the period under review and management and organisational deficiencies are still being attended to."

6.87. The Committee enquired as to what other factors were responsible for delays in the execution of orders and what steps had been taken to overcome the difficulties. The Management state as follows :—

"(i) The main responsible for delays has been that the production has been less than the targets as the producivity is low. Maintenance was poor and material supply was also not satisfactory.

(ii) A concerted effort had been undertaken to provide adequate basic raw materials for the Foundry and the position has somewhat improved.

(iii) The maintenance organisation in the FFP has still not become effective. This is another field in which we are concentrating."

Delay in the execution of work in Foundry Forge Plant

6.88. One of the reasons for delay in the execution of orders by HEC was the delay in the execution of work in Foundry Forge Plant. As mentioned earlier Foundry Forge Plant functions as the feeder department of the Heavy Machine Building Plant and Heavy Machine Tools Plant. Consequently, any delay in execution of work in Foundry Forge Plant affects the execution of works by the other two units. In order, therefore, to avoid delay, in certain cases work had to be off-loaded to outside parties. An examination of the records of the Grey Iron and Non-ferrous Foundry, the Steel Foundry and the Forge Shop of the Foundry Forge Plant has revealed that there has been abnormal delay in the execution of orders. A statement indicating the delay in execution of orders for the period up to March, 1969 is given in Appendix III.

6.89. It will be seen therefrom that out of 1422 work orders, 111 have been off-loaded to outside parties and 169 have been cancelled. Out of the remaining 1142 work orders, only 44 have been completed in time.

6.90. The Committee enquired as to whether there was any improvement during 1969-70 in this regard. The Management replied in the affirmative and stated that 101 work orders were completed and 91 work orders were cancelled.

6.91. The Committee enquired about steps proposed to be taken by the Management to improve the situation as any delay in execution of orders by the Foundry Forge Plant had its effect on the timely execution of orders by the Heavy Machine Plant and Heavy Machine Tools Plant. In reply the Management have stated as follows :—

"The situation would improve with the increase in production. Following steps have been taken to improve out-put.

It will be necessary to build up a united management team which can provide leadership on its own account. Till this is done any hasty change or stiffening in management postures, will only lead to greater confusion and lack of cohesion. Unity in thought and action can be brought about by : (a) better communication (b) better involvement of managers in decision making (c) improving morale and cohesiveness through limited but purposive actions and (d) demanding performance in order to achieve management objectives.

(i) Unifying personnel policies and procedures in the three plants;

(ii) improving (a) production control (b) material management through modern feed back methods involving use of computer;

(iii) introducing incentives;

(iv) improving maintenance specially in FFP;

(v) quality control and inspection to be improved;

(vi) training emphasised at all levels."

6.92. The Committee enquired whether any purpose was served in placing an order on the Foundry Forge Plant when it was unable to execute it within the delivery schedule indicated by the other two plants, and whether it would not be advisable in such cases to make alternative arrangements right from the beginning.

6.93. The Management have stated that "it has since been decided that alternative arrangements as considered necessary will be made by FFP with the approval of Director (Technical) depending on their capability to execute orders."

6.94. The Committee express their deep concern about the delay in the execution of orders by HEC which has resulted in "serious delays in commissioning of various projects" both in the public and private sectors. What surprises the Committee most is that "no assessment of the exact impact of such delays has been made" either by the Ministry or by the Management. With a view to improve the situation, the Committee on Public Undertakings (1967-68) had recommended that the Corporation should take immediate steps to ensure adherence to the delivery dates. A team

of Technical experts pointed out various deficiencies such as inadequate co-ordination, planning and supervision, quotation of arbitrary delivery dates to customers, absence of information about the available load in different sections, purchase action for stores not being initiated in advance, lack of coordination between stores and purchase organisations, absence of a programme for preventive maintenance etc. The Management admit.ed that there were still delays in the execution of orders because of low productivity, poor maintenance and unsatisfactory supply of materials.

6.95. The Committee note that delay in execution of work in Foundry Forge Plant is the major contributory factor for the delay in the execution of orders in HEC. The Committee note that in spite of the recommendations of the technical experts to improve the working of the Foundry Forge Plant the position has not substantially improved. As the Foundry Forge Plant holds key to production in the entire complex the Committee feel compelled to recommend that the position should be reviewed at the highest level and a task force entrusted with the responsibility of bringing up the production in F.F.P. to the level required for meeting adequately and in time the requirements of forgings and castings etc. The Committee would like to be informed of the improvements affected within three months.

D. Cancellation of Work Orders

6.96. Up to March, 1969, while 946 work orders were fully executed, 498 (including 16 suspended since February, 1967) were cancelled in the Heavy Machine Building Plant. Some of the orders were withdrawn by the customers (including sister projects) while others were cancelled by the Plant itself partly because manufacture of some items was undertaken without specific orders therefor. Up to March, 1969, Rs. 12.15 lakhs were spent on 150 cancelled work orders (there was no expenditure against other cancelled work orders) as shown below :—

Particulars	Cost of materials	Conversion charges and overheads	Total
	Rs.	Rs.	Rs.
(*a*) Suspended work orders	1,32,121	1,93,304	3,25,425
(*b*) Cost of replaced work orders	1,26,994	1,76,523	3,03,517
(*c*) Cost of work orders cancelled by HNBP	1,07,516	1,67,608	2,75,124
(*d*) Cost of work orders cancelled by sister projects	27,359	77,221	1,04,508
(*e*) Cost of work orders cancelled by other customers	65,775	1,43,575	2,09,350
	4,59,765	7,58,231	12,17,996
Less : Cost of work partially delivered in one work order			2,758
TOTAL ..			12,15,238

6.97. The Management have stated (January, 1970) that value of materials shown against item (b) above has been transferred to the new work orders and steps are being taken either for making alternative uses

or for disposal of materials where work orders were suspended/cancelled and that "some of the work orders opened for the supply of products to Bhilai, Bokaro etc. had to be cancelled and new work orders opened as a result of changes made in the course of subsequent discussions and negotiations."

6.98. Even if there is no loss in the disposal of materials, the expenditure of Rs. 5.82 lakhs incurred as conversion charges and overheads will be rendered infructuous.

6.99. In a written reply the Committee were informed that the 16 orders which had been suspended since February, 1967 had been reviewed and necessary action had been taken.

6.100. Asked about the broad reasons for the suspension/cancellation of work orders, the management furnished the following information :

(i) Work orders have been cancelled which have been opened initially without firm orders.

(ii) Orders had to be cancelled/suspended due to inordinate delay in supplies.

(iii) Orders had to be suspended/cancelled at a later stage consequent to the decision to import additional completing equipment in order to meet the delivery schedule.

6.101. The Committee enquired as to how private customers were allowed to withdraw orders without payment of compensation. During the course of evidence, the Managing Director informed the Committee that whenever there was cancellation when no expenditure had been incurred the private customer was not penalised. However final orders are now being accepted with advances. So whenever any cancellation occurred, the amount of advance was adjusted against the preliminary work which might have been done in regard to that particular contract.

6.102. The Committee desired to know the arrangement when the cancellation occurred due to delays on the part of the Corporation. The Managing Director replied "it will depend upon the commercial conditions at the time of acceptance of cancellation". The Committee enquired whether the management had taken any measure to obviate these delays.

6.103. The Managing Director stated that "basic steps have been taken to improve production. And the decision to appoint a Commercial Manager has been taken so that the terms and conditions are more stringently scrutinised". In regard to the latest position about the alternative use/disposal of materials in the case of cancelled work orders, in a written reply the Committee have been informed that "a Standing Committee has been constituted to regularly review such items for alternative utilisation/disposal.

6.104. The Committee are surprised and regret to note that upto March, 1969, as many as 498 orders were cancelled in the Heavy Machine Building Plant. Cancellation had to be done as some orders were opened initially without firm orders from the parties or due to in-ordinate delay in supplies or even for that matter due to a later decision to import additional equipment to meet the delivery target. All these indicate that the procedure in vogue for opening the work-orders and their actual execution is not a rational one nor is there adequate planning, with the result that in the case of some

orders taken up for Bokaro and Bhilai an expenditure of Rs. 5.82 lakhs incurred by the Corporation for conversion charges and overheads had been rendered infructuous. The Committee have elsewhere deprecated the delay in the execution of orders by the Corporation and desire that effective remedial action shuold be taken to have a realistic delivery schedule and adhered to it.

6.105. The Committee fail to understand how manufacture of some items was taken up without any firm orders resulting in infructuous effort and expenditure. The Committee hope that effective action would be taken to avoid the recurrence of such infructuous efforts.

E. Execution of orders for Bokaro Steel Ltd.

6.106. In 1965, the Company started negotiations with the Soviet Collaborators for the Bokaro Steel Limited to determine the scope of supply of equipment and structurals for that plant. A letter of intent was placed by the Bokaro Steel Limited on 9th March, 1967 and a formal agreement was entered into on 9th April, 1969 for the manufacture of 99,579.29 M. tons (position as on 31st May, 1970) of mechanical equipment and structurals. Out of the total quantity to be supplied, the Company off-loaded manufacture of 12,479.53 M. tons of equipment to the Garden Reach Workshops Ltd. and 1,181.56 M. tons to the Central Inland Water Transport Corporation Ltd. also Government Undertakings. The time schedule fixed for completion of total supplies by different agencies was as follows :—

(All figures in M. Tons)

	1968-69	1969-70	1970-71	1971-72	Total
H.E.C.					
(*i*) Equipment	1,145·21	12,466·64	25,760·00	17,979·35	57,351·20
(*ii*) Structurals**	4,531·00	12,992·00	9,816·00	—	27,339·00
	5,676·21	25,458·64	35,576·00	17,979·35	84,690·20
G.R.W.					
Equipment*	541·25	8,190·50	3,708·40	39.39	12,479·53
C.I.W.T.C.					
Equipment*	—	67·25	1,022·12	92·19	1,181·56
Others					
Equipment*	—	532·00	696·00	—	1,228·00
	541·24	8,789·75	5,426·52	131·58	14,889·09
GRAND TOTAL	6,217·45	34,248·39	41,002·52	18,110·93	99,579·29

*Represent the quantity of complete equipment only as off-loaded.

**Includes the quantity of 13,716·435 M. tons of off-loaded to other manufacturers/contractors as mentioned in para 6·108.

6.107. As it was not possible for the Company to match its manufacturing programme with the delivery schedule indicated by the Bokaro Steel Ltd. and as the latter was not ready to adjust the delivery schedule, despite its failure to supply the drawings in time, the Company decided to import a quantity of 13,760 M. tons of equipment (including 8,125.598 M. tons of

components and completing equipment) from the U.S.S.R. under various contracts entered into with M/S Prommashexport during the period from September, 1967 to August, 1969, to be delivered between March, 1969 to December, 1970. Although some of these items could be manufactured indigenously, the Management recorded the following justification for their import :—

". . . . . within the short time available with us it would not be possible for us to match the details from indigenous sources since even detailed drawings are not available".

6.108. The overall position regarding the manufacture of equipment and structurals (including components/completing equipment off-loaded by the Company) by different agencies for supply to the Bokaro Steel Limited is as follows :—

(Figures in M. tons)

	Equipment	Structurals	Total
Total Order	72,240·290	27,339·000	99,579·290
Quantity off-loaded to G.R.W. and C.I.W. T.C. (including 527·360 M. tons of completing etc.	14,188·450	—	14,188·450
Quantity to be imported from USSR (including 8,125·598 M. tons of components/completing equipments)	13,760·163	—	13,760·163
	44,291·677	27,339·000	71,630·677
Quantity off-loaded to other manufacturers/contractors (including 3,487·04 M. tons of components/completing equipment . .	4,715·040	13,716·435	18,431·475
Quantity to be manufactured by the HEC	39,576·637	13,622·565	53,199·202

It is seen that out of the total of 99,579 M. tons of equipment and structurals, the Corporation off-loaded 32,620 M. tons of equipment and structurals to other agencies and 13,760 M. tons of equipment had to be imported from USSR. The Committee enquired as to what were the reasons for off-loading such huge quantity of equipment and structurals to other parties.

In reply the management have stated as follows :—

"(a) Off-loading is necessary (i) as the production efficiency in plant is low, (ii) items that can be obtained from other indigenous manufacturers are being off-loaded so that the production capacity of the plant could be used on the manufacture of complicated and heavier items thus maximising supplies to customers, (iii) for any engineering complex, it is generally expedient to obtain certain simpler items from ancillaries and other sources to build up the complete equipments.

(b) Off-loading has been done both on account of low productive efficiency and consequent over-loading of work on certain load centres".

6.110. The following statement would show the progress of manufacture of equipment and structurals by the Company and its sub-contractors

as on 31st March, 1970 :—

Mechanical Equipment	Scheduled supply*	Total Quantity manufactured	Total despatch	Manufacture against schedule	Shortfall in manufacture against schedule
H.E.C. Ltd.	13,606	10,393	9,335	7,902	5,704
G.R.W.	8,732	4,013	2,619	3,914	4,818
C.I.W.T.C.	65	25	6	25	40
Others	532	Nil	Nil	Nil	532
	22,935	14,431	11,960	11,841	11,094
Structurals	18,330	24,226	22,336	16,504	1,826
TOTAL ..	41,265	38,657	34,296	28,345	12,920

*Contract weights corrected by the Management and hence differ from the statement given in para 6·106

6.111. The position of supply of equipment and structurals as on 1-10-71 is as under :—

Sl. No.	Category of equipment	Supplying Agency	Tonnage on order contracted	Schedule of supply upto 3rd Qr. '71	Cumulative despatched against schedules		Remarks
					Upto 3rd Qr. '71	Total despatches upto date (including forward supplies)	
1.	(a) Mech. equipment.	H.M.B.P.	57,005	53,537	29,097	28,325	
	(b) -do-	G.R.W.	12,479	12,479	5,963	5,285	
	(c) -do-	C.I.W.T.C.	1,182	1,182	66	66	
	(d) -do- (cranes)	Other firms	1,228	1,228	135	133	
	SUB-TOTAL		71,894	68,426	35,261	33,809	
2.	Machine Tools	H.M.T.P.	346	346	336	336	
	Total Mech. Equipment (including machine Tools)		72,246	68,772	35,597	34,647	
3.	*Steel Structurals*						
	(a) Technological Structurals	H.M.B.P.	12,637	12,637	12,385	12,351	
	(b) Building structurals	H.M.B.P.	14,702	14,702	16,029	15,960	Increase in designs weight
	SUB-TOTAL		27,339	27,339	28,414	28,311	Increase in design weight.
	GRAND TOTAL		99579	96111	64011	62082	

NOTE : Figures reflected are correct to nearest tonnes.

6.112. From the above statements it is clear that in the case of mechanical equipment the total quantity manufactured was less than the quantity required to be supplied by scheduled dates. The quantity as actually manufactured did not again conform in entirety to the manufacturing schedule. In respect of structurals although the quantity manufactured as well as supplied was more than the quantity scheduled to be supplied, it did not correspond in all cases, to the sequence of delivery indicated by the Bokaro Steel Ltd.

6.113. In the quarterly financial review of Bokaro Steel Ltd. for the quarter ending 31st March, 1970 it has been mentioned that "The delay in supply by the principal indigenous suppliers. HEC and MAMC seriously affected the monthly erection programme and was likely to lead to claims from contractors for idle labour".

6.114. The Committee enquired whether H.E.C. became liable to any payment due to its failure to keep the sequence of delivery in terms of the contract between the H.E.C. and B.S.L. In a written reply the management have furnished the following information :—

"The clause in the contract between H.E.C. and Bokaro is as under :—

"Time and date stipulated in the contract for completion of the work shall be deemed to be the essence of the Contract. If the supplier fails in the due performance of his contract to deliver any part of equipment within the time fixed by the contract or any extension thereof and/or to fulfil his obligations in time under the agreement he shall be liable to an agreed liquidated damage and not by way of penalty, a sum of one per cent of the contract value for that complete item of equipment included in scope of supply per completed month the delivery of which has been in consequence delayed. The supplier's liability for the delay in delivery shall not in any case exceed 3% of the contract value of such delayed items".

6.115. The Managing Director, Bokaro Steel Plant had expressed unhappiness over the extremely unsatisfactory trends in the supply of machinery and equipment for Bokaro from H.E.C. The Committee enquired as to what extent the construction plans of Bokaro had been delayed on account of delay on the part of H.E.C. in adhering to the supply schedule. In a written reply it has been stated as under :—

"The extent to which the construction plans of Bokaro have been delayed on account of delay on the part of H.E.C. in adhering to supply schedule has not been assessed by H.E.C. or intimated to H.E.C. by Bokaro Steel Ltd."

6.116. When the Committee enquired about the reasons for not adhering to the schedules as originally given and the steps taken to ensure timely delivery of equipment and machinery to Bokaro Steel Ltd., the management furnished the following information :—

"(1) Production has been less than the targets and this has affected supplies.

(2) Productivity is low.

(3) There have also been cases of delays in procurement of material.

(4) Rejection of materials during processing *e.g.* castings of values obtained from trade.

To meet the requirement, following steps had been taken :—

(1) An assessment was made of the volume of equipment that would be imported or completing parts obtained to keep to the delivery schedules. Orders for such items have been placed and they are now being received.

(2) An overall assessment of the volume of the requirement of castings and forgings within a certain time period was made and the quantity particularly in the light weight group which could not be manufactured in time in the plant was off-loaded to other indigenous manufacturers in the country so that we could concentrate on the items that cannot be taken up by other manufacturers. The supplies from trade have, however, been unsatisfactory both in regard to quality and delivery schedule.

(3) The supply position of 20 mm and higher thickness plates was rather unsatisfactory and as such arrangements have been made to import the quantity required for fulfilling the Bokaro Commitment.

(4) Machining facilities available in Foundry Forge Plant and Heavy Machine Tools Plant and some other units in the country are also being utilised for the purpose.

(5) The item required for commissioning the first blast furnace complex have been segregated with a view to taking up these items on priority basis so that the commissioning of the 1st Blast Furnace is not delayed on account of supplies from H.E.C. Supplies of items required in erection sequence have been largely completed.

(6) We have also identified the items which do not require erection time so that these are taken up in the end and the items needed in the sequence of erection are supplied earlier so that construction schedule is not affected".

6.117. It is seen that one of the reasons for non-adherence to the delivery schedule was the delay in the procurement of materials. The Committee enquired as to whether these materials, had to be arranged by the BSL or the Corporation itself and if by the latter why timely supply of the required materials could not be ensured. In reply the management have stated that :

"Materials are to be arranged by H.E.C. All efforts are being made. Some items particularly steel sections are in short supply. Imports have been arranged where supplies were not available indigenously. A large number of indigenous manufacturers have not been able to make supplies in time against orders placed on them".

6.118. The Committee enquired whether the Corporation had ascertained the reasons for the supply not adhering to the sequence of delivery so far as sub-contractors are concerned and whether any action could be taken against them for this failure. In reply it has been stated that :

"This is periodically reviewed. Recently the Company has posted an officer at Calcutta to regularly follow up these orders. Wherever possible assistance is also rendered to the suppliers". It has been added that "contract has not been finalised so far".

6.119. During evidence the Committee pointed out that besides the defective production planning and labour trouble the other reasons for delay in reaching the production as planned was the failure on the part of the private producers. They enquired as to what action had been taken against such producers. The Secretary of the Ministry stated as under :

"As far as production of Bokaro equipment is concerned, it is regretably true that not only public sector undertakings, but a large number of private sector undertakings, on whom supply contracts were placed have not kept to the schedule and some of them are quite well known and well established firms. As regards the question of taking action against them, we are really more interested today in getting the equipment than punishing the undertakings. My officers and I personally have not only written but have met the senior representatives of the companies like, GEC, CIMMCO, Mukands, Shahabad, ACC, Seimons etc. as also the Government Undertakings like HSCL, Triveni Structurals, BHELGRW etc. We carry out monthly review. They have also genuine difficulties but where they have difficulties of availability of steel etc., we take positive action to give them the steel. Where they have difficulties about import licences, we have even been helping the private companies in this respect. It is with this that it has been possible to obtain supplies at a rate in Bokaro which is twice of what was about year ago.

There are difficulties and it should be appreciated that most of this equipment is made in the country for the first time and when equipment of this complication is made, it must be ensured that it works together as a system. When they are put into operation, some modifications may become necessary and all sorts of difficulties may arise".

6.120. The Committee enquired whether the position regarding the actual supplies made by the HEC *vis-a-vis* those scheduled for delivery was reviewed at Ministry's level from time to time and if so, whether action was taken to ensure timely supply of required quantity of equipment and structurals by the HEC to BSL. The Secretary stated as under :—

"The position is unsatisfactory. There have been delays in supplies from H.E.C. There have been a considerable number of meetings held at the Ministry level. To give you the position in the last 18 months, my predecessor held a review meeting on 31st March, 1970 and he specifically wanted to know what items can be sub-contracted so that the programme is not affected. On 21st May, 1970 the then Minister and the then Secretary held a review meeting and with regard to the items which HEC could not supply in time to Bokaro, they said that other indigenous capacity must be harnessed. On the 12th January, 1971 the then Minister and myself held a meeting and we asked HEC for a detailed programme for the supply of equipment for the 1.7 million tons to Bokaro. I have held the task force meetings on the 13th of April, 4th June, 4th September and 3rd of October, this year, when not only the problems of HEC were discussed but also the supply to Bokaro was discussed. Many meetings were held with the sub-contractors, we are also taking various steps in order to solve the problems of HEC. For instance, the other day, a report came that there was shortage of oxygen. We immediately got in touch with the Indian Oxygen Co. and various other people to organise the supply to them. They have got the problems of import licence. There is a special cell in CC&IE so that expeditious disposal of such cases takes place".

6.121. When the Committee wanted as assurance that supply to Bokaro Steel Plant would be regular, the Secretary stated as under :—

"I can say that the position is much better than before. But I must also say that I do not believe that there is a single company—public sector or private sector in respect of which it can be said that they have kept their delivery dates to the full. Despite all these hurdles, the position has improved and we do hope that it will improve further. We have also to examine the increase in prices. It is not only important that we must keep to the schedule which we have promised but in the case of Bokaro, we have already invested Rs. 500 crores. If we take interest of 7 per cent, it means Rs. 10 lakhs a day. What is then important is not what HEC can do, but to get the work done. We have, therefore, taken decisions even to take away some of the items from the HEC and transfer them to somebody else. Therefore, we are looking for new companies and it is an advantage to us because once an item is established, for the future programme, we will get the delivery in time".

6.122. The Committee enquired whether the Ministry had checked that the quantity of equipment imported for the execution of orders for Bokaro Steel was received within the time it was required and utilised immediately by the BSL. The Secretary stated as under :

"In 1967-68, 43 items were ordered for import. 33 of these were shipped in 1967-68 4 more items were ordered upto 1969. The balance of 10 from 1967-68 and these four were shipped during the first to third-quarters of 1970. So, these items came late. Similarly, I have got figures for 1970. The rough position is that most of the imported items have come in time. But it cannot be stated that as soon as they came, they were installed because they must be installed in the sequence in which they have to be installed".

About the time lag for the execution of these orders, the Secretary stated as follows :—

"In fact, when a contract is reached, the first thing that one should make sure is the time of delivery. If the time of delivery suits us, then only the order is placed, because afterall why do we go for import—it is because we want the equipment by a certain date. If we are given long enough time then everything can be made here. According to the time-schedule every complete item or completing item or components should be received in time and then only it can be assembled with the main equipment in time".

6.123. The Committee enquired as to what span of time was needed for manufacture in the country. The Secretary stated :

"We have to make an assessment, whether they will be manufactured at the rate at which they are required. If we come to the conclusion that they will not be manufactured within that time, then you have to take a decision on whether to import it or not. This is considered seriously. It is examined in detail and only after complete examination, those items which cannot be manufactured within the time schedule to match up with other developments, are decided to be imported".

6.124. The Committee find that out of the total order of 99,979 M. tons of equipment and structurals received from the Bokaro Steel Ltd., the Heavy

Engineering Corporation Ltd. off-loaded 32,620 M. tons of equipment and structurals to outside agencies. In order to meet the delivery schedules, Heavy Engineering Corporation had to import 13,760 M. tons of equipment from USSR. Off-loading had to be done "both on account of low production efficiency and consequent over-loading of work on certain load centres".

6.125. The Committee further note that the delay in the execution of orders was not only caused due to defective production planning in H.E.C. but also due to failure on the part of private producers. The Committee regret that the Corporation has not finalised any contract with such firms so far, nor taken any action against them for not adhering to the delivery schedule. The Committee desire that responsibility for delay in finalising the contracts should be fixed. Time being the essence of contracts, the Ministry/Management should ensure that contracts with sub-contractors whom work is off-loaded are finalised without any delay and hereafter specific time schedule for delivery of equipment should be provided therein.

The Committee view with concern that extremely unsatisfactory trends in the supply of equipment and structurals to Bokaro Steel Ltd. by the Heavy Engineering Corporation Ltd. seriously affected the erection programme of the Bokaro Steel Ltd. and recommend that Government should immediately make an overall assessment regarding the actual supplies made by HEC *vis-a-vis* those scheduled for delivery and take appropriate steps either for the manufacture of the components in the country or for importing them consistant with the production capacity of the HEC.

The Loss/Profit incurred/made by H.E.C. in respect of equipment supplied to Bokaro Steel Ltd.

6.127. In April, 1969, the Government fixed the following prices (for delivery at site) for the supplies to be made to Bokaro Steel Limited :—

(1) Non-Competitive Items	51,172 M. tons	@ Rs. 14,100 per M. ton	Rs. 72·15 crores
(2) Competitive Items ..	21,362 M. tons	@ Rs. 11,130 per M. ton	Rs. 23·78 crores
(3) Structurals	26,467 M. tons	@ Rs. 2,426 per M. ton	Rs. 6·42 crores
	*99,001 M. tons		Rs. 102·35 crores

*This quantity has since been increased to 99,579·29 M. tons.

6.128. The loss/profit incurred/made by the Company in respect of the quantity already supplied cannot be ascertained on account of non-availability of the cost of production (in the case of equipment) and the source of supply *i.e.* whether out of plant's own production or out of the contractor's supplies (in the case of structurals).

6.129. Against the price of Rs. 14,100 per M. ton for non-competitive items and Rs. 11,130 per M. ton for competitive items payable by the Bokaro Steel Limited, the Corporation is required to pay an average price of Rs. 14,285 per M. ton to the USSR suppliers for the equipment to be imported.

6.130. As the price to be paid in respect of quantities off-loaded to the Garden Workshops Limited and Central Inland Water Transport Corporation Ltd. has not been settled in all cases so far, the financial implication of off-loading these equipment cannot be ascertained at this stage.

Settlement of Prices with Garden Reach Workshops Ltd. and Central Inland Water Transport Corporation Ltd.

6.131. The Committee enquired as to how the price fixed by the Ministry was accepted by the H.E.C. when the price payable by it to the Garden Reach Workshops Ltd. and the Central Inland Water Transport Corporation Ltd. in respect of the supplies off-loaded to them had not yet been settled in all cases.

6.132. The Committee were informed that the price fixed by the Ministry was accepted in accordance with the terms of the Agreement between BSL and HEC which provided that "the prices for equipment and structures will be decided by the Secretary to the Government of India in the Ministry of Steel and Heavy Engineering."

6.133. The Committee enquired as to what was holding up the settlement of prices with the Garden Reach Workshops Ltd. and Central Inland Water Transport Corporation Ltd. and how the payment was made by the H.E.C. to the G.R.W. and C.I.W.T. The management stated that "provisional payments is being made at the rate of Rs. 8900/-* per tonne and the matter regarding settlement of prices being referred to Bureau of Public Enterprises."

6.134. The Committee regret to note that loss/profit incurred by the Corporation in respect of equipment supplied to Bokaro Steel Ltd. could not be ascertained on account of non-availability of the cost of production (in the case of equipment) and the source of supply i.e. whether out of Plant's own production or out of the contractor's supplies (in the case of structurals). The Committee recommend that the management should work out the financial results of transactions with Bokaro Steel Ltd. without any delay.

6.135. The Committee further find that although Government have fixed the prices for supplies to Bokaro, but the prices payable in respect of quantities off-loaded to the Garden Reach Workshops Ltd., and Central Inland Water Transport Corporation Ltd., which are also Government of India undertakings, have not been settled so far.

6.136. The full financial implications of off-loading these equipments cannot obviously be known till prices are finally settled. The Committee desire that the prices should be settled expeditiously by the Bureau of Public Enterprises to whom the case stands referred.

6.137. The Committee are greatly concerned to note the inordinate delay in settling prices for machinery and equipment to be supplied by Public Undertakings to another Undertaking in the Government Sector. The Committee stress that the Ministry/Bureau of Public Enterprises should evolve a well defined procedure in order to eliminate delays that occur due to differences among the public sector undertakings regarding settlement of prices.

*According to local verification done by Audit, this rate is applicable to Garden Reach Workshop Ltd. only.

Whenever two or more Government Undertakings cannot come to an agreement, they should avail of this procedure and have the matter decided without delay, so that the financial implications of each transaction become known in time to all concerned.

Payment of Double Sales Tax in respect of Equipment supplied to Bokaro Steel Ltd.

6.138. In respect of the quantity of 13,661.09 M. tons of complete equipment off-loaded to Garden Reach Workshops Ltd., Calcutta (12,479.53 M. tons) and Central Inland Water Transport Corporation Ltd., Calcutta (1181.56 M. tons) the sales tax will have to be paid twice, firstly at the time the equipment is sold by these undertakings to the Company and again when the bill is raised by the Company against the Bokaro Steel Ltd. As the equipment will be delivered in the finished form by the undertakings direct to the Bokaro Steel Ltd. without any further processing having to be done at the company's plants the payments of the sales tax at the stage it will be levied when billing is done by the Company, would have been avoided if these equipment had been purchased direct by the Bokaro Steel Ltd. from these undertakings without bringing in the Company as intermediary. The exact financial implication cannot be ascertained at this stage as the price payable in respect of these equipment to the Garden Reach Workshops Ltd. and Central Inland Water Transport Corporation Ltd. has not yet been settled.

6.139. In the quarterly financial review of Bokaro Steel Ltd. for the quarter ended 31-3-1970 it is mentioned that the Chairman HEC informed the Board of Directors of BSL that he was awaiting the legal opinion in the matter. The Committee understand that the legal position in this regard had since been ascertained and it was that there is no escape from payment of Double Sales Tax as per existing contracts. This matter is to be further discussed between representatives of BSL and HEC".

6.140. The Committee consider that the double incidence of sales tax could have obviously been avoided if the orders for machinery and equipment required by Bokaro Steel Ltd. were arranged to be placed directly on Garden Reach Workshops Ltd. and the Central Inland Water Transport Corporation Ltd. after due consultation with the Heavy Engineering Corporation Ltd. The Committee would like Government even now to see whether the incidence of double sales tax could be avoided by arranging for bills being directly raised by the Garden Reach Workshops Ltd. and the Central Inland Water Transport Corporation Ltd. on Bokaro Steel Ltd. instead of routing them through the Heavy Engineering Corporation Ltd. The Committee would also like Government/Bureau of Public Enterprises to issue suitable guidelines on the subject so as to obviate incidence of double sales tax in future.

F. **Loss on Procurement of Design Documentation for Bokaro Supplies**

6.141. The Bokaro Steel Limited entered into a contract with the Russian Collaborators (M/s. Tiajpromexport) on 23rd January, 1967 for the supply of design documentations for equipment weighing 92,358 M. tons at a cost of Rs. 4 crores, out of which equipment weighing 66,181.09 M. tons were to be manufactured by the Heavy Engineering Corporation Limited. The design documentations for the entire quantity have already been supplied to the Corporation.

6.142. In the absence of any specific provision in the contract entered into between the two companies or an indication that the price payable by Bokaro Steel Ltd. to the Company is inclusive of the cost of design documentations, it cannot be ascertained at this stage whether the cost of design documentations is payable by the Company to the Bokaro Steel Ltd.

6.143. In a written reply the management have, however, stated that "the total amount paid to Bokaro in respect of Design Documentation is Rs. 286.63 lakhs".

6.144. Against the quantity of 66,181.09 M. tons of equipment for which design documentations had been obtained by H.E.C. it was decided by the Corporation to manufacture 39,576.637 M. tons in its own Plant. It was decided to off-load 18,903.490 M. tons of equipment, including components/completing equipment to the Garden Reach Workshops Ltd.. Central Inland Water Transport Corporation Ltd. and other contractors. It was however, not clear if the cost of the design documentation will be recoverable from them. When the Committee enquired about this they were informed in a written reply by the Management that this would be taken into account while fixing the final rate for supplies made by M/s. G.R.W. and C.I.W.T.C.

6.145. As regards the question as to who should bear the cost for the design documents, the Committee were informed during evidence that "the payment has been made and the money has gone out of India. Now, it is a matter between the Garden Reach Workshops, H.E.C. and Bokaro. Bokaro have been contending and with a lot of weight that as we have taken over the supplies, we must take over the liability also. Likewise we are going to pass on the proportionate charge for designs to Garden Reach Workshops because they are going to benefit by it".

6.146. The Corporation imported 13,760.163 M. tons of components/ completing equipment (including 5,634.565 M. tons in completely finished form). There was no justification for the Company to obtain design documentations from Bokaro for the quantity of equipment which the Corporation imported from Russia. The cost of design documentation of imported equipment works out to Rs. 56.12 lakhs.

6.147. So far as the procurement of design documentation for the quantity of 13,760.163 M. tons is concerned, the Ministry stated (July, 1970) that (i) design documents for complete equipment had to be obtained even if components and completing items and sub-assemblies were imported and (ii) designs for complete equipment were obtained as these would be required for future requirements particularly for the second stage expansion of Bokaro Steel Ltd.

6.148. As regards the design documents for equipment, the components and completing equipments of which were being imported, the Committee desired to know whether such a decision was based on the advice of the Director General Technical Development or any other technical authority. In a written reply the management stated that "The imports were finalised (full machines) after the receipt of the drawings so it was not possible to exclude the items fully imported from the contract signed by B.S.L. for Design documents".

6.149. During the evidence the Committee pointed out that when the designs were available, the Company should have made an effort to manufacture them instead of importing them.

The Secretary of the Ministry stated as under :—

"Nobody rushes for any import. Moreover, the design documentation is necessary even to decide whether the item can or cannot be made by HEC. Most of this equipment is new, Sir. Even though the import of design documentation may not have been useful for the first stage of Bokaro (1.7 million tonnes), we have still got 2.5, 4, and 5.5 M. tonnes (if sanctioned) stages. We are also attempting to standardise the equipment for the steel plants. The reason is that Bhilai has been established with Russian collaboration, Durgapur with British collaboration and they have used different specifications and different kinds of equipment because they were all turnkey jobs. It is, therefore, necessary to standardise them to manufacture them in large quantities. I am sure, that while standardising for the plants, this design documentation will be useful.

As far as the Soviet collaboration itself is concerned, the expansion of Bhilai has been sanctioned, there also it is going to be useful. This money that has been spent on design documentation is not at all wasteful. When we organise our own design staff, these design documentations will be helpful."

6.150. Asked as to why the Corporation imported the material when the design documentation was available with them, the Secretary stated that "That would have been possible, if H.E.C. could work perfectly and it produced according to the time schedule and if the investment in Bokaro could wait. He pointed out that "only the interest charged in the investment in Bokaro is Rs. 10 lakh a day. Therefore we had to take a decision whether it was better to wait for H.E.C. or to import."

6.151. The Committee find that the Corporation was already in possession of certain design documentations for quantity of 19,600 M. tons of equipment (corresponding to 20,102.94 M. tons as per the detailed drawings prepared subsequently). However, the Bokaro Steel Ltd. could delete items only for a quantity of 2,444.81 M. tons from its contract with USSR collaborators and did not supply design documentations for another quantity of 2,319.53 M. tons. The procurement of design documentations for a quantity of 15,428.60 M. tons (20,192.94—2,444.81+2,319.53) has thus resulted in further expenditure of Rs. 66.82 lakhs.

6.152. As regards the procurement of design documentations for 6,555.19 M. tons (out of the 15,428.60 M. tons) the Ministry informed Audit in July, 1970 that "the view was taken that the drawings in possession of H.E.C were old in design and by the time manufacturing drawings for the equipment would be issued from the U.S.S.R., the Soviet designers would incorporate the latest technological change, advances and modifications and consequently it would not be correct to work to the drawings available with H.E.C.".

6.153. The Committee enquired whether this view was taken independently or it was taken on the advice of the USSR collaborators. In a written reply the Management have stated that "this view was taken in consultation with the Soviets".

6.154. For the quantity of 8,873.41 M. tons, the Ministry informed Audit in July, 1970 that "it was originally anticipated that we would be in

a position to develop the designs". Subsequently however, it was decided that the cranes were to be supplied as per Soviet drawings made available to Bokaro Steel Limited.

6.155. The Commitee enquired as to what were the reasons for taking this decision. In reply, the Management stated that "For 10800*T. of cranes, H.E.C. indicated that they can design and manufacture, and hence drawings are not required from U.S.S.R. But B.S.L. agreed that only 2319.3 T. of Cranes can be supplied to HMBP Design."

6.156. The Committee on Public Undertakings in their 14th Report (1967-68) on Heavy Engineering Corporation Ltd. had observed :

"In his quarterly Financial Review of the period ending the 30th September, 1967, the F.A. and C.A.O. of the Corporation has pointed out that the HMBP is being required to pay more towards the cost of the design documentation to Bokaro Steel Plant than it should. It appears that the Bokaro Steel Plant has obtained the drawings for all the equipment that is to be supplied by the Corporation at a flat rate of 8 per cent of the cost of equipment from the U.S.S.R. All these drawings are being passed on to the Corporation irrespective of fact whether these were required or not. In fact for several items to be supplied to Bokaro the HMBP has already got the drawings. The HMBP has specifically told Bokaro Steel Ltd. that for about 9,000 tonnes of equipment drawings are available and they need not obtain the drawings from the USSR. In spite of this, drawings are being passed on to the HMBP.

* * * * * *

"This is a serious matter involving avoidable loss of foreign exchange. The Committee fail to understand as to how the Government allowed the import of drawings without ascertaining from the Corporation whether these were available with them or not. They recommend that in future the Government should exercise great care before allowing the imports of designs and drawings for equipment to be manufactured by the Corporation. Scrutiny of orders placed for design documentation but not executed so far may also be made in order to take remedial measures, if possible".

6.157. In reply the Ministry have stated as follows :—

"This case has been investigated. It was initially agreed between HEC and Bokaro Steel Ltd., that in view of HEC undertaking the manufacture of various types of sophisticated equipment, in many cases for the first time, all the working drawings which would normally include all technological know-how, would be obtained by Bokaro Steel Ltd., and passed to H.E.C. from whom the cost of the drawings would be recovered. During the negotiations with the Soviet consultants, HEC suggested that drawings for about 9,000 tonnes of equipment need not be procured from the U.S.S.R. as these were available

*According to local verification by Audit drawings in respect of cranes were not required for 11192·94 M. tons correspondings to 10600 tons as per D.P.R.

with them. This was discussed with the Soviet consultants and it was decided that for about 2,700 tonnes of equipment HEC could go ahead with the drawings already available; for about 300 tonnes orders had already been placed with the manufacturing plants in the USSR and hence could not be cancelled. For the remaining 6,000 tonnes, the view was taken that the drawings in possession of HEC were old in design and by the time manufacturing drawings for the equipment would be issued from the USSR the Soviet designer would incorporate the latest technological change, advances and modifications and consequently it would not be correct to work to the drawings available with HEC. The amount payable is not in terms of a percentage of the cost of equipment but a lump sum of Rs. 40 million".

6.158. As regards the procurement of design documentations which were already in possession of the Corporation the Managing Director, HEC explained during evidence as follows :

"We got it from Bokaro Steel and they wanted the equipments to be supplied to them in accordance with the drawings which were in their possession. This related to some of the cranes and other equipments which they felt, they must got according to the drawings which they had with them rather than the drawings which were available with the HEC. It was a customer's decision at the time of placing the order".

6.159. The Chairman, HEC added that "our drawings were old. The contract which Bokaro Steel Ltd. had entered got them certain latest designs and they had obtained their latest designs".

6.160. The Committee desired to know whether under this agreement they could not ask for the latest design and improvements, in case the designs were already available. They further enquired whether the HEC were entitled to get improvements in designs and drawings. The Chairman, HEC replied "even for that we will have to pay. Whenever we ask for drawings we have to pay under the agreement. It is not that we get freely because of the collaboration".

6.161. The Committee are surprised to find that a sum of Rs. 286.63 lakhs has been paid to Bokaro Steel Ltd. in respect of design documentation without even ascertaining whether the cost is payable at all. The Committee also find that out of the total sum of Rs. 286.63 lakhs debited to the account of the Corporation for the receipt of design documentations from the Bokaro Steel Ltd. a total expenditure of Rs. 122.94 lakhs was incurred for design documentations which were either already in possession of the Corporation or which were not at all utilised as components/completing equipments for which the design documentations were meant, were actually imported from Russia. The Committee are of the opinion that the loss incurred by the Corporation on the procurement of design documentations was due to lack of adequate coordination between the Bokaro Steel Ltd. and H.E.C.

6.162. The Committee feel that the Bokaro Steel Ltd. went in for the import of design documentations without finding out whether or not these were available with the H.E.C. and as they could not get out of the commitments, the design documentations imported by them were thrust upon

HEC. The justification given by the Management that the new drawings will be useful for future expansion appears to be an after-thought.

The Committee would like Government to probe into the matter in order to find out the extent to which the import of design documents, for which large amounts have been paid, was avoidable and has proved infructuous. The Committee recommend that Government should take steps to avoid such losses in future. The Committee would also like Government to issue detailed instructions to public undertakings in the light of this experience so that no omnibus commitments in respect of design documents is entered into which obliges an undertaking to import designs and drawings irrespective of their need. The Committee would like to be informed of the action taken within three months.

G. Defective Production Planning

6.163. An analysis of the production performance as made in the preceding paragraphs reveals on the one hand shortfall in planned production, manufacture of products not conforming to the sequence of delivery, inability to adhere to the delivery schedule and consequent off-loading and cancellation of orders, on the other hand cases of manufacture of certain items in anticipation of orders, in excess of orders in hand and manufacture without proper planning have come to notice. Certain other cases where consultancy arrangements were finalised for manufacture of items for which there was ultimately no demand were also noticed. Some of these cases are discussed in the succeeding paragraphs :—

(i) *Manufacture of 4.6 cu.m. Excavators*

6.164. During November, 1965—February, 1967 the Company entered into 4 contracts with the foreign collaborators for the import of 3 complete excavators and components for another 11 excavators at a cost of Rs. 146.81 lakhs, CIF, although it had in hand an order for only 9 excavators from the National Coal Development Corporation Limited. The supplies for 9 numbers were received by March, 1967 and for 5 numbers by May, 1968.

Out of the 9 excavators required to be supplied to the National Coal Development Corporation Limited by 1967, only five excavators (including 3 complete sets imported) in full and 2 excavators in part were supplied, upto 31-3-1969. Due to change in National Coal Development Corporation's production programme and delay in supply by the Company, the National Coal Development Corporation Limited cancelled (7-5-1968) the orders for the remaining 2 excavators.

6.165. Due to non-receipt of further orders for the supply of excavators, imported components valued at Rs. 74.74 lakhs and castings (obtained from the Foundry Forge Plant) valued at Rs. 5.16 lakhs were lying in the Stores/shop floor as on 31-12-1969.

6.166. The Committee enquired whether it has been examined that these components and castings would be fully utilised in the manufacture of the remaining excavators. The Management have stated that "Imported components and castings obtained from FFP are being used in the manufacture of excavators for which firm orders are in hand. Five excavators are programmed for completion during 1971-72".

6.167. Although there was no production programme approved for the manufacture of excavators, the manufacture of 12 more excavators was undertaken and orders were placed on 2-11-1965 on the Bharat Heavy Electricals Limited for the supply of 12 sets (subsequently increased to 24 sets) of electrical components at a cost of Rs. 159.81 lakhs (provisional), to be supplied by 1968-69 (extended up to 1971-72). The Foundry Forge Plant was also asked to supply castings and forgings for 12 sets.

6.168. During evidence the Committee enquired as to how the production on such large scale of a new item was justified without any assessment of the demand and the economics of the production. The Chairman, HEC, stated as follows :—

> "If I may submit, it has not been provided in Project Report that we manufacture 30 excavators a year. Now the normal thing is on obtaining a particular type of equipment for a certain purpose, the demand was visualised that 30 will be required. The experience has shown that there is a big demand. In fact, we could not be able to meet that demand. We have to reject orders. And NMDC had to import 9 excavators because we could not comply. To get the orders and then start work and get supply of raw materials; it takes 2½ years and customers cannot wait till that time. Since we have a capacity and we have visualised there is a demand—in fact, it was visualised in the Project Report—we have decided to go on the basis of 6 to start with. This year, we are going to supply 5. In any case, we are also going to supply another 12 to NCDC; but a portion of it is being imported. We are now trying to build up our capacity and in that context, we have decided that in certain items of regular demand in the market, we should take action earlier."

6.169. The Committee desired to know the latest position regarding orders received for excavators. The Management have furnished the following information :—

"The details of the orders received for excavators are given below :

1.	N.C.D.C.	7 tons	(Supplied)
2.	Beas Project	2 Nos.	(Supplied)
3.	Rourkela Steel Plant	1 No.	
4.	Bokaro Steel Plant	3 Nos.	
5.	Bhilai Steel Plant ..	3 Nos.	
6.	Ramaganga Project	1 No.	
7.	N.M.D.C.	4 Nos.	(Original order was for 14 Nos. which reduced to 4 Nos.)
8.	N.C.D.C.	12 Nos.	

Supplies have not yet been completed for any excavators from Sl. No. 3 to 8".

6.170. As to the reason for abnormal delay in the execution of order for the excavators, it has been stated that "delay was due to low productivity and the Management deficiencies."

No approval of the Board of Directors was obtained for the import of components for 9 excavators out of 11 excavators and for the procurement of electrical components castings and forgings for the 24/12 sets.

The Management have stated (February, 1970) as follows :—

> "Because of the fact that the excavator is a standard item within the profile of Heavy Machine Building Plant and also to take advantage of the economies in Batch Type production, it was thought desirable that manufacture of excavators should be taken up at the rate of 6 units per year in anticipation of orders, so that supplies can be made from ready stock."

6.171. During evidence, the Committee enquired as to why the approval was not taken for the import of components for 9 excavators and whether the post-facto approval had at least been taken. The Chairman, HEC replied "We cannot give the reply. We are just finding out why it was not done." Subsequently in a written reply, however, the Committee have been informed that "Post-facto approval of the Board has not been obtained. Excavator is a standard item of manufacture and is included in the production programme every year which is approved by the Board."

6.172. The final order for the supply of 24 sets of electrical components at a cost of Rs. 132.50 lakhs was placed on the Bharat Heavy Electricals Limited on 2-9-1970; the approval of the Board of Directors was taken earlier on 28-5-1970.

6.173. The Committee enquired as to the reasons for taking more than 4 years in placing the firm order on the Bharat Heavy Electricals Ltd. for the supply of 24 sets of electrical components. The Management have stated that :

> "Our letter of intent on BHEL was itself a firm order. Formal order could not be issued pending settlement of final prices. Agreement on prices was arrived at in July 1970 and hence the formal covering order was released on 2-9-1970."

6.174. The Committee further enquired as to what was the reason for bringing the matter to the notice of the Board of Directors after more than 4 years from the date when the decision to manufacture more excavators (even though not covered by the approved production programme) was taken and the Bharat Heavy Electricals Ltd. approached for the supply of the electrical components. The Management stated that the "approval of the Board was taken before release of the formal order after the prices were settled."

6.175. The Committee have been informed that the manufacture of excavators was undertaken after assessment of the demand. It was visualised by the Corporation that 30 excavators would be required per year. The Committee, however, find that only 9 excavators had been supplied by the Corporation since 1965. There had been considerable delay even in the supply of these excavators. The Corporation had to reject orders because they could not meet the demand. N.C.D.C. had to import 9 excavators because the Corporation could not comply with the order. The delay in the supply of excavators resulted in the cancellation of orders. The Committee deplore that due to low productivity and management deficiencies there had been delay in the compliance of orders.

6.176. The Committee recommend that the delivery for the orders in hand should be expedited so as to attract more orders.

6.177. The Committee take a serious view of the fact that approval of the Board of Directors was not obtained for the import of components for 9 excavators. Orders were also placed on the Bharat Heavy Electricals Ltd. for the supply of electrical components for the excavators on 2-11-1965, whereas the approval of the Board was taken on 28-5-1970 after a gap of nearly 5 years. The Committee are of the opinion that the approval of the Board of Directors should have been taken at the time of taking the decision to manufacture/import the excavators/components and before issuing the letter of intent on BHEL for the electrical components. The Committee would like Government/Heavy Engineering Corporation to look into the matter to obviate recurrence of such instances.

(ii) *Manufacture of charging Box Cars*

6.178. The manufacture of 20 Charging Box Cars, each with an approximate finished weight of 20 M. tons, was taken up without any specific order in hand and without any estimate of cost therefor. 139.5 M. tons of components valued at Rs. 5.33 lakhs, C.I.F. Calcutta (or Rs. 7.44 lakhs) were purchased under a contract dated 29-4-1965. The job has been completed and the total cost has amounted to Rs. 10.79 lakhs. All the cars (finished weight being 413 M. tons) are lying idle and the Commercial Department of the Company has not been able to get any order for these cars.

6.179. The Management stated that the production of these cars was taken up during 1964-65 with a view to give some loading to the shops as the order position was in a fluid stage. The charging box cars are used in the steel melting shops where open hearth furnaces are installed but the orders subsequently received were for iron ladle cars, ingot mould cars, slag ladle cars, etc. and not for charging box cars.

6.180. The Committee enquired whether the above reasons justified the undertaking of manufacture of as many as 20 charging box cars without any order in hand. In reply it has been stated that "the manufacture of 20 charging box cars was undertaken in consultation with DGTD and Steel Plants. This no doubt involved certain commercial risk."

6.181. The Committee enquired from the Ministry as to whether the charging box cars had not been imported by the Public Sector or private sector steel plants after these were taken up for manufacture by HEC and that similar cars were also not proposed to be imported in future without considering the possibility of utilising those already manufactured by the HEC. In a written reply the Ministry have furnished the following information :

> "The charging box cars were produced by HEC in 1965-66 in consultation with the Steel Plants and the work was taken up mainly with a view to providing load to the shops. All the charging box cars have been sold recently to the Bhilai Steel Plant @ Rs. 90,000/- each. It will be seen that HEC realised a sum of Rs. 18 lakhs in the transaction as against the total cost of Rs. 10.79 lakhs.
>
> It has been ascertained from the office of Director General of Technical Development that no import of charging box cars has been allowed in the recent past."

(iii) *Manufacture of Type HMB-DR-15 Water Well Drilling Rigs*

6.182. In June, 1966, the manufacture of 12 rigs was taken up even though there was no order in hand and the following purchases were made:—

(i) Drilling pipes, tools and accessories during July and August, 1968 for which a payment of Rs. 27.95 lakhs has been made so far. The entire quantity of these articles is still (November, 1969) lying in the stores.

(ii) 12 nos. trailors during February, 1968 to March, 1969 for which a payment of Rs. 3.75 lakhs has been made so far. Eleven trailors are still lying in the stores and the one issued to works is in the shop.

(iii) 2.704 M. tons of castings valued at Rs. 8,112 have been procured from Foundry Forge Plant and issued to the shop. Another quantity of 7.055 M. tons is still to be supplied by Foundry Forge Plant.

(iv) Equipment valued at Rs. 1.64 lakhs, CIF Calcutta, imported from USSR and received during the period from November, 1968 to May, 1969 are lying in the stores.

6.183. During evidence the Committee enquired as to why the rigs had been manufactured. The witness replied "to utilise our capacity." Subsequently, in a written reply the Committee have been informed that "firm orders for 9 Nos. DR-15 rigs have been received. Due to delay in deliveries, orders for 7 Nos. have been cancelled.

The firm order is for 2 Nos. out of which one has since been supplied."

6.184. Although delivery of rigs as per revised delivery programme was expected to start in August, 1969, practically no manufacturing work has been started (June, 1969) in spite of the fact that all the necessary tools, components and accessories have already been procured and are lying in the stores. In this regard, the management have stated that "there has been serious delay in the manufacture of this model of rigs. The castings of Mud Pump had been procured from the trade. At the final stage of testing, the castings did not withstand the required pressure and had to be rejected. Mud Pumps have been ordered or an indigenous supplier and here again there are delays in supplies. Steps have been taken to make castings in FFP as well."

6.185. The Commitee asked as to how the delivery schedule was accepted when the Company was unable to undertake the regular manufacture of these rigs long after the expiry of the delivery dates. The management have stated that "delay is now mainly on account of failure of Mud Pump at final stage."

6.186. It is seen that the price of Rs. 6 lakhs per rig was accepted by the Company even though it was below the landed cost (Rs. 6.41 lakhs). The Committee wanted to know the basis on which the price of Rs. 6 lakhs was accepted by the Company and how this price compared with the cost of production. In reply it has been stated "The price of Rs. 6 lakhs was fixed

*According to local verification by Audit the representative of HEC was present when the price was fixed.

by the Ministry of Food and Agriculture in 1967*. Cost of production has not been worked out." During evidence the Committee enquired as to how the price of the rigs was fixed and what was the basis of the cost. In reply the witness stated :—

> "It is an imported item. If we are monopolists, we try to get our costs which are very high. But if we are not monopolists, there are other manufacturers, we have to bring it down as low as we can bring to meet the market conditions. Wherever, we are monopolists, our costs are so high that the other man starts complaining."

(iv) *Manufacture of Type US. B-3 A.M. Rigs*

6.187. A work order for the manufacture of 20 rigs was taken up and an agreement dated 29-12-1967 was entered into for the import of 285.300 M. tons of completing parts, tools and spare parts at a cost of Rs. 41.45 lakhs C.I.F. Calcutta, on deferred payment basis. Out of 266.560 M. tons of components valued at Rs. 43.95 lakhs (including Rs. 5.22 lakhs as interest) received so far, a quantity of 8.808 M. tons has been issued to works and a sum of Rs. 9.88 lakhs (including Rs. 90,480 as interest) has been paid up to November, 1969. Orders for 7 rigs only, to be supplied during July/ August, 1969 and March, 1970, have been received but only 3 rigs (two in complete form and the third partly) have been supplied so far (December, 1969).

6.188. The Committee enquired as to what was the latest position regarding orders for these types of rigs and what were the prospects of getting further orders for the remaining rigs. In a written reply, it was stated that "all the rigs presently under manufacture are covered by firm orders." Asked about the loss incurred/profit made on the type U.R. B-3 AM Rigs, the management have stated :

> "The net loss in the manufacture of first ten rigs is Rs. 17.865 lakhs. Manufacturing cost upto shop level and partly the general overheads to the extent of Rs. 7 lakhs are covered by sale value. Loss relates to part of general overheads."

(v) *Manufacture of 3-D Type Drilling Rigs for O.N.G.C.*

6.189. The Audit Report (Commercial) 1970 Part VIII has commented upon the delay in supply of rigs by Heavy Engineering Corporation, Ranchi as follows :—

> "An order for the purchase of 3 complete 3-D type drilling rigs was placed on M/s. Heavy Engineering Corporation Ltd. Ranchi vide contract No. ONGC/HEC/3-D dated 26th October, 1967 at a total cost of Rs. 1,01,09,246 and a total payment of Rs. 44,85,030.82 has so far (January, 1970) been made by the Commission. Although the rigs were to be received before the end of 1967 none of these rigs has been received in complete form so far (January 1970). It may be mentioned that the contract does not include any penalty clause for delay in delivery."

6.190. During evidence of the representatives of ONGC the Committee were informed that HEC had supplied one rig, but it had not been put to use, as some of the components were still awaited.

6.191. The Committee regret to note that the manufacture of 20 charging box cars, 12 Nos. HMB-DR-15 water drilling rigs and 20 Nos. UR. B-3 AM rigs was taken up without any specific orders in hand and without any precise estimate of cost thereof, and drilling pipes, tools and imported equipments worth several lakhs of rupees were purchased and they were all remaining idle. The production of these items was taken up merely "with a view to give some loading to the shops" and in order to utilise the capacity of the Plant which undoubtedly involved "commercial risks."

6.192. Even when orders for 5 Nos. DR-15 Rigs and 7 Nos. UR B-3 AM Rigs were received, their manufacture was not started. The Committee further note that the Corporation received an order for supply of 3 complete 3-D type drilling rigs from ONGC. Although the rigs were to be supplied by the end of 1967, HEC had supplied so far only one rig to ONGC and that too could not be put to use as some of the components were still to be supplied. The Management have admitted that there has been serious delay in the manufacture of rigs.

6.193. The Committee stress that the Corporation should not take up manufacture of items without any accurate assessment of demand and existing sources of supply or firm order. The delay in the supply of machinery and equipment as compared to delivery schedule is reprehensible as it drives away potential customers.

6.194. The Committee further deplore that although the cost of production of DR-15-Rigs has not been worked out so far, the price of Rs. 6 lakhs per rig was fixed in 1967 even though the landed cost was Rs. 6.41 lahks. The net loss in the manufacture of first ten UR B-3 AM rigs was Rs. 17.865 lakhs. The Committee would like Heavy Engineering Corporation to work out invariably costs before agreeing to sale price so that the Management know full financial implications of execution of an order.

(vi) *Manufacture of Derrick Mast*

6.195. In order to facilitate erection of Electrical Overhead Travelling cranes in the Heavy Machine Building Plant, the Company took up in 1962 the manufacture of one 100 ton Derrick Mast. After about half the work had been done, it was realised that the E.O.T. cranes could be erected with the help of other available mobile cranes and the manufacture of the Derrick Mast was, therefore, suspended.

6.196. The Committee enquired whether manufacture of Derrick Mast was initially taken up without proper examination of its necessity. In a written reply* it has been stated "the manufacture of Derrick Mast was taken up with the intention that this will be utilised in outside erection job to be taken up by HEC". It has been further stated that "It was expected that HEC would undertake turn-key jobs where the Derrick could be utilised for erection at site. Since then no turn-key jobs, where Derrick could be utilised, have been undertaken."

6.197. The manufacture of Derrick Mast was resumed in September, 1964 when the Rourkela Steel Plant expressed its desire to purchase it and was completed at a cost of Rs. 1.17 lakhs. The Derrick Mast was not,

*According to local verification done by Audit the Derrick Mast was manufactured to facilitate the erection of EOT Crane in HMBP vide Dy. General Manager Production (HMBP) letter dated 14-4-65 and Controller of Finance (HQ) letter dated 5-12-68.

however, sold to the Rourkela Steel Plant as it was expected to be utilised in future, but was lent on hire on 9-4-1965 without settling the terms and conditions therefor.

6.198. In September, 1966, the Rourkela Steel Plant agreed to pay the hire charges at Rs. 7000 per month from 17-12-1965 (the date by which the detailed erection drawings were made available to it) as against Rs. 8000 per month from 9-4-1965 demanded by the Company. The Company agreed to the above terms. Failure to supply the detailed erection drawings along with the Derrick Mast and to settle the terms of hire initially, has resulted in short recovery of hire charges to the extent of Rs. 57,513.

6.199. The Derrick Mast was received back from the Rourkela Steel Plant on 3-9-1966 and has been lying in dismantled condition, along with accessories, in stores since then.

6.200. The Management have stated (January, 1970) that the matter is being taken up again with Rourkela Steel Plant for the payment of hire charges from 9-4-1965, *i.e.* the date on which Derrick Mast was supplied to them.

6.201. The Committee enquired whether Derrick Mast was lent on hire to Rourkela Steel Plant without first settling the terms and conditions. In a written reply it has been stated that "the terms of payment were settled with Rourkela Steel Plant. Dispute with Rourkela Steel Plant relates only to the period for which hire charges are to be paid as they could not utilise the Derrick immediately on receipt for want of detailed drawing sets."

6.202. The Committee asked as to whether it was not confirmed from the Rourkela Steel Plant that they would be in a position to operate the machines with drawings given to them in the first instance on 6-1-1965. In reply it has been stated that "The general view drawings were supplied on 6-1-1965 and Derrick was supplied on 9-4-1965. It was expected that Rourkela Steel Plant would be able to utilise the Derrick with the help of general view drawings given to them."

6.203. Asked about the latest position regarding the payment of hire charges by the Rourkela Steel Plant, the Management stated that "the matter has been closed after settling the issue with Rourkela Steel Plant and obtaining payment for hire for the period from 17-12-1965 to 3-9 1966."

6.204. The Committee regret to note that the Corporation proceeded with the manufacture of 100 Ton Derrick Mast without proper examination of its necessity. The Derrick Mast which was completed at a cost of Rs. 1.17 lakhs was not sold to the Rourkela Steel Plant on the plea that it would be utilised in the Plant itself. But actually the Mast was not utilised and lent on hire to Rourkela Steel Plant without settling the terms and conditions therefor. Failure to supply the detailed drawings along with the Derrick Mast and to settle the terms of hire initially resulted in short recovery of hire charges to the extent of Rs. 57,513. The Derrick Mast has been lying in dismantled condition along with accessories in stores since 3-9-1966. The Committee deprecate that no efforts have been made to utilise the Derrick Mast which was manufactured at a considerable cost. The Committee recommend that the case regarding unwanted manufacture of Derrick Mast should be investigated. The management should take appropriate steps so that such lapses do not recur.

(vii) *Licensing agreement for continuous casting machine*

6.205. In September, 1966, the Company entered into an agreement with M/s. Licensintorg of USSR for obtaining licence, technical know-how and documentation for the manufacture of vertical type continuous casting machine. The Agreement which was approved by Government on 21-12-1966 provided for the following payments :—

(i) Lumpsum initial payment of US $ 100,000 (or Rs. 750,000) within 95 days after signing the Agreement.

(ii) 5 per cent of the cost of each machine built by the Company.

(iii) Royalties on each machine sold—US $ 0.20 (twenty cents) per ton of carbon steel and US $ 0.45 (forty-five cents) per ton of alloy steel proceeding from the annual capacity of the installation.

6.206. A sum of Rs. 7.5 lakhs was paid by the Company on 6-2-1967.

6.207. At the time of entering into the agreement the Company did not have any order in hand for these machines nor was any market survey made to ascertain the demand. In August, 1967, it was found that the demand was not vertical type but for curve-mould type (radial type) casting machine as the latter required less investment. Consequently an amendment to the original contract was made in May, 1970 for acquiring licence rights and technical know-how from the same firm for the radial type continuous casting machine on the following terms :—

(i) Initial payment of US $ 75,000.

(ii) Royalties in respect of each machine @ US $ 0.20 per ton of carbon steel and US $ 0.45 per ton of alloy steel, proceeding from their annual capacities.

(iii) The royalty will be paid only once.

6.208 As the Company has not been able to secure any order for the vertical type machine so far (May, 1970) the expenditure of Rs. 7.5 lakhs appears to have been locked up. In reply to this para, the Management informed that "even in 1965-66 a number of enquiries had been received from the entrepreneurs within the country for the supply of continuous casting equipments. Bhilai, Rourkela and Tata Steel Plants had envisaged the provision of continuous casting installation in their expansion schemes."

6.209. The Committee enquired whether these enquiries were for vertical continuous casting machines. They further enquired whether continuous casting installations in the expansion programmes of the Steel Plants were for vertical type of machines and, if not, how the finalisation of the licensing agreement for vertical type of continuous machines was justified.

6.210. In a written reply the Management have stated that "Enquiries did not specify the type of continuous casting machine and were directed to meet the particular requirements of the products. As some grades of steels are better cast on vertical type of continuous casting machines (stainless steel, heat resistant steels, high alloy steels, transformer steel) and also that the less operational skill is required to operate them, it was decided to obtain the manufacturing know-how for these machines to start with.

6.211. Again the type of continuous casting installations in the expansion programmes had not been finally decided upon by that time. The programmes were only upto concept or feasibility considerations stage. However, from the informal indications it was gathered that vertical type of machines could as well fit in the requirements drawn."

6.212. The Committee enquired whether it was not the usual practice to make a market survey before undertaking the manufacture of any product and why such a course was not adopted in this case. In reply it has been stated as follows :—

"It is agreed in principle that the usual practice is to make a market survey before undertaking the manufacture of new product. But in case of either innovations or development in process technology or manufacturing technology, it is generally practised that the same are opted and acted upon. As the continuous casting is a new technique in shaping the steel technology and has firmly established itself in the world iron and steel industry, as an alternate to the conventional system of blooming mills the same was not done. In this connection it may be noted that Japan Steel Industry also went in for the licence for manufacturing vertical type of continuous casting machines from Soviet Union in 1966 and already a few installations are in operation in Japan."

6.213. The management stated that they expected that there would be demand for both the types of machines. The Committee enquired as to what was the basis for this expectation. They asked whether any order had been received for any of the two types of machines. The management have furnished the following information :—

"The basis was the potential of industrialisation existing in the country. With the growth of the Indian industrialisation, the demand of various special grade steel products will also grow. This will demand the installation not only of both the types, but perhaps of other types such as horizontal type which are under development or experimental stage.

Quotations have been sent so far to 48 parties including one for M/s. Amrit Banaspati Co. who first wanted radial type but later have decided for vertical type installation. No order has been finalised so far."

6.214. The Committee regret to note that the Corporation decided to manufacture vertical type continuous casting machines without any order in hand and without making any market survey to ascertain its demand. The Committee also note that the manufacture of this item was taken up when the expansion programme had not been finally decided upon and the programme had reached only conceptual or feasibility consideration stage. It is quite surprising that no order for any type of machine has been finalised so far. The contract entered into with a foreign firm for obtaining technical know-how and documentation etc. had to be amended as it was decided later to manufacture only radial type continuous casting machine. Initial expenditure of Rs. 7.5 lakhs incurred for the vertical type of machine thus proved to be infructuous.

6.215. All the cases discussed under the heading 'Defective Production Planning' indicate that the Corporation decided to undertake the manufacture of some of the major items without any proper planning. The ill-planned production has resulted in considerable loss to the Corporation. The

Committee view with concern the lack of planning and undue haste in taking up manufacture operations and sinking large amounts without a proper market survey of potential customers, resulting in blocked capital and losses to the Corporation.

6.216. The Committee recommend that all such cases where manufacture of items had been taken up in anticipation of orders or grossly in excess of orders in hand, should be carefully investigated, and responsibility fixed. The Committee suggest that Government should also issue suitable guidelines so as to avoid such lapses in future.

(viii) *Consultancy Arrangements for Bailadila Project*

6.217. In a joint meeting of the Company, the Mining and Allied Machinery Corporation Limited and a foreign firm held on 18-7-1967, it was decided that the Company should take up the supply of items like Apron Feeders, Primary and Secondary Crushers, Heavy Reduction Gears and Grizzley for a new iron ore mine at Bailadila. In a meeting of the National Mineral Development Corporation Limited and the Company held in September, 1967 it was decided that the Company should take up the job on turn-key basis. Accordingly, the Company entered into a consultancy agreement with a foreign firm under which a payment of Rs. 5 lakhs was to be made for the first phase of the agreement which covered the work up to the quotation level. The payment was made on 6-2-1968 and 27-3-1968.

6.218. However, at an Inter-Ministerial meeting held on 21-2-1969 it was decided that the responsibility of the Company would be confined to the supply of equipment and the overall responsibility for execution of the project including civil engineering works and arranging of consultancy would be assumed by the National Mineral Development Corporation Ltd. As a result, a revised quotation for the supply of equipment only was submitted by the Company on 12-3-1969 on the basis of which a letter of intent was placed by the National Mineral Development Corporation Limited on the same date.

6.219. Although the National Mineral Development Corporation Ltd. was requested by the Company on 1-4-1969 to reimburse the amount of Rs. 7 lakhs (Rs. 5 lakhs paid to the foreign firm and Rs. 2 lakhs incurred internally) in exchange of the valuable data collected before submitting the quotation, no reply has been received so far (July, 1970).

6.220. The Committee enquired from the Ministry as to what were the reasons for confining the responsibility of the Company only to supply of equipment when in September, 1967 the Company and the N.M.D.C. Ltd. agreed to do the job on turn-key basis.

6.221. The Committee further enquired whether the fact that the Company had already entered into consultancy agreement was duly taken into consideration before taking the decision to submit revised quotation for the supply of equipment only. In a written reply the Ministry have furnished the following information :—

"HEC submitted a tender in 1968 with the assistance of M/s. Hewitt Robins of USA for taking up the Bailadila Project on a turn-key basis.

In the subsequent negotiations which continued over many months, the turn-key picture get extremely blurred, largely because the NMDC felt that the HEC's costs were on the high side. One of the points on which there was considerable discussion was regarding civil construction and ultimately the NMDC took the line that it would be cheaper for them to take over civil construction directly instead of entrusting this to the HEC. The extact scope of the civil construction work was not, however, spelt out in any detail between the two Corporations. After the investment decision on the project was taken, a broad letter of intent was issued to HEC indicating the time schedule within which the project should be completed. It was at this stage that detailed discussions were necessary between the two Corporations as to the exact scope of work of the HEC. Unfortunately, despite the fact that two or three meetings were held between the Corporations, no understanding was possible and in fact serious difference of opinion developed in respect of the civil works relating to the installations which HEC were supposed to complete within the stipulated time schedule. From the HEC side, it was emphasised that unless the civil works relating to the mechanical installations were also entrusted to the HEC, it would not be possible for them to assume overall responsibility either for the project or for its time schedule of completion.

The view point of the NMDC was that their entire planning had been on the basis that they would do all the civil works including civil works of mechanical installations. The two grounds quoted were, first, they had enough civil engineering staff and secondly that the functioning two civil engineering organisations in Bailadilla would give rise to serious practical difficulties. In any case, they were not willing to pass on the civil works for mechanical installation to HEC.

It was also felt in the Ministry that HEC would be taking on a very heavy responsibility if they undertook the civil work on the mechanical installations in addition to manufacture of the equipment itself and that the best arrangement from HEC's point of view would be to confine themselves to the manufacture and supply of equipment alone. This was considered further at an inter-departmental meeting when it was decided that HEC's responsibility would be confined to the supply of equipment for the project and that the overall responsibility for execution of the project including civil engineering works and arranging of consultancy would be assumed by National Mineral Development Corporation."

(ix) *Consultancy Arrangement for Kiriburu Project*

6.222. On request from the National Mineral Development Corporation Limited, the Company decided to submit a tender for the work of Kiriburu Expansion Project on turn-key basis. Accordingly, a consultancy agreement was entered into with a Japanese firm and a letter of intent was issued on 11-3-1968 for starting the preliminary work which involved preparation of tender documents. A sum of Rs. 2.93 lakhs was paid to the firm (Excluding travelling expenses for the specialists amounting to Rs. 7.418).

6.223. The quotation for the work on turn-key basis was sent by the Company to the National Mineral Development Corporation Ltd. on 22-6-1968, but as the latter was not willing to award the work on turn-key

basis, it was decided at an inter-Ministerial meeting held on 21-1-1969 and 22-1-1969 that the Company would be supplying only the equipment. The National Mineral Development Corporation Ltd. has sent a letter of intent on 25-4-1969 for the supply of equipment but the price has not been finalised so far.

6.224. The Committee desired to know as to how it was presumed that the work would be awarded to the Company on turn-key basis. The Management have stated as under :—

"In pursuance of the discussion between Chairman, NMDC and Chairman, HEC on 15th September, 1967, Shri S. N. Bilgrami, Chairman, NMDC, *vide* his letter No. PS/12 KBE/67, dated 23rd October, 1967, addressed to HEC, sent a copy of tender documents in respect of the modifications and expansion of Kiriburu ore handling plants. He mentioned therein that 'due to special problems of modifying an existing production unit, requiring more direct and effective supervision and coordination by the Corporation it had been considered desirable to confine the turn-key aspect of this contract to design engineering, supply of equipment, supervision of erection and commissioning of the plant, excluding installation of the thickners and related slime and water handling equipment'. Notice inviting tenders was issued to H.E.C. only. Accordingly, HEC had submitted a quotation on single tender basis, for the above work to NMDC, on 24th June, 1968. From the letter of Chairman/NMDC dated 23rd October, 1967 as referred to above, it is clear that NMDC wanted HEC to submit its quotation on turn-key basis and since HEC was the only party to whom tender papers were issued it was obvious at that stage that HEC would have to take up this job on turn-key basis."

The management stated on 13-5-1969 that :

".....Had it been known earlier that Heavy Engineering Corporation is to supply only the equipment being manufactured by us the consultancy services would not have been required and the entire expenditure on the consultancy services would not have been incurred."

6.225. In January, 1970 the Management further stated that "The expenditure incurred..... in preparing the initial plans for these projects will have to be considered as fruitful expenditure. HEC should continue to incur such expenditure in future also in order to secure orders for sophisticated equipment of this type."

6.226. The Committee asked as to how the management reconciled the two statements. The management furnished the following information :

"It is only with the intention of taking up turn-key jobs, comprehensive quotations for Bailadila and Kiriburu were prepared. As H.E.C. did not have the know-how for such project work the consultants were engaged. As stated earlier, had it been known earlier that H.E.C. had to supply only the equipment the quotations would have covered only the supply of equipment. Only in this context HEC had stated that "had it been known earlier that HEC is to supply only the equipment being manufactured by us the consultancy services would not have been required and the entire expenditure in the consultancy services would not have been incurred."

However, because of the action taken by HEC in preparing the whole scheme for NMDC, HEC was able to obtain orders for the major equipment both for Bailadila & Kiriburu projects, amounting to *Rs. 4.48 crores. The major equipment comprises, gyratory crushers, cane crushers, stackers, loaders, and reclamers. Because the whole scheme was worked out by HEC, it was possible to incorporate its own standard equipment and project the scheme around it. If the scheme is worked out by any other foreign/Indian consultants, there is every possibility of the scheme being developed around the equipment of well established manufacturers who were already in the fields since ages."

6.227. It is seen that the National Mineral Development Corporation Ltd. has not agreed so far to reimburse the amount of Rs. 4.23 lakhs as requested by the Company.

6.228. In July, 1970 the Management informed that the NMDC had again been asked in February, 1970 to reimburse the total amount of Rs. 11.23 lakhs (in respect of consultancy agreements for Bailadila & Kiriburu Projects).

6.229. The Committee enquired as to what was the final outcome of the matter. The management have stated that :

"There was no reply from NMDC for the claims made by HEC for the reimbursement of amount spent towards the consultancy charges in preparation of the turn-key offer for Bailadila and Kiriburu Projects. Several times the claim was pressed, the latest being in October, 1970 by a D.O. letter from the then Deputy Chairman to Chairman NMDC and the matter is being pursued."

6.230. The Heavy Engineering Corporation incurred an expenditure of Rs. 11.23 lakhs by way of engaging two foreign consultancy firms to prepare quotations for Bailadila and Kiriburu projects on turn-key basis. The Committee note that ultimately the decision at Government level was that the role of Heavy Engineering Corporation should be limited to that of supply of equipment and machinery only. While it is true that by preparing comprehensive schemes for these projects, Heavy Engineering Corporation were able to secure orders for machinery and equipment to the extent of Rs. 4.48 crores, the Committee feel that if it was Government's intention that the role of Heavy Engineering Corporation should be limited to that of supply of equipment and machinery only, there might have been no need for entering into consultancy agreements with foreign firms at a heavy cost of Rs. 11.23 lakhs. The Committee would like Government/Heavy Engineering Corporation to learn a lesson from these instances and lay down clear guidelines so that no premature action is taken to engage the services of foreign consultants at heavy cost when in the last analysis their services are hardly required resulting in unfruitful expenditure.

H. Production performance of rough Machine shop

(i) *Rough Machine Shop*

6.231. The Rough Machine Shop of the Foundry Forge Plant has been set up with the object of giving machine finish (in part) to the castings and

*As per local verification done by Audit this should be 4·38 crores (Rs. 2·83 crores for Bailadila and Rs. 1·55 crores for Kiriburu).

forgings produced in the plant before these are transferred to the Heavy Machine Building Plant and Heavy Machine Tools Plant. The Shop was scheduled to be completed (up to 2nd stage) with the commissioning of 94 basic machines (in two shifts) by October, 1968. The shop started functioning from October, 1966.

6.232. The entire quantity of castings and forgings produced in the Foundry Forge Plant does not require rough machining. The following table gives the rated capacity of the Foundry Forge Plant for the production of castings and forgings (up to 2nd Stage), the quantity requiring rough machining according to the Detailed Project Report, the actual production of castings and forgings and the quantity actually handled by the Rough Machine Shop during the years 1967-68 and 1968-69 :—

(Quantity in M. Tons)

As per Detailed Project Report				Actual Production					
Rated capacity for production of castings and forgings in F.F.P.		Quantity requiring rough machining in Rough Machine Shop		Castings and forgings in F.F.P.		Quantity requiring rough machining in Rough Machine Shop		Quantity actually handled in the Rough Machine Shop	
Item	Qty.	Qty.	Percentage	1967-68	1968-69	1967-68	1968-69	1967-68	1968-69
1	2	3	4	5	6	7	8	9	10
(*i*) Grey Iron Castings	23,000	10,300	45%	3,354	4,620	1,509	2,079		
(*ii*) Non-ferrous castings	700	270	39%	70	60	27	23	911	2,692
(*iii*) Steel castings	26,000	20,700	80%	1,326	2,509	1,061	2,007		
(*iv*) Forgings	25,700	17,280	67%	512	2,050	343	1,374		
	75,400	48,550		5,262	9,239	2,940	5,483		

6.233. It will be seen that the Rough Machine Shop handled a quantity of 3603 M. tons during the years 1967-68 and 1968-69 as against the quantity of 8423 M. tons required to be handled. The shortfall in the quantity of castings and forgings rough machined in the Rough Machine Shop obviously increases the work of machining in Heavy Machine Building Plant and the Heavy Machine Tools Plant.

6.234. The quantity of castings and forgings produced by Rough Machine Shop of FFP in 1969-70 and 70-71 are given below:

1969-70	..	5104 T
1970-71	..	7055 T

6.235. The Committee desired to know the reasons for the Rough Machine Shop's incapability to handle the required quantity and the remedial measures taken in this regard.

In a written reply the management have stated as follows :—

"The reason for not handling the required quantity of rough casting and forgings are mainly as below :

(1) Instead of only rough machine castings and forgings for which the shop is meant; at present most of the orders from outside parties are for fully machined items. It has been decided now that all such orders will be done through HMBP in future. Rough Machine Shop of FFP will do only rough machining.

(2) All the machines have not been manned so far.

(3) As per the Protocol between HMBP & FFP, all the alloy steel castings and forging of 1 ton and above and iron castings of 3 tonne and above will be supplied in rough machined condition progressively."

6.236. The Committee regret to note that only 42% of the total quantity requiring rough machining could be handled by the Rough Machine Shop and that there is considerable shortfall in the quantity of castings and forgings rough machined in the Rough Machine Shop. One of the reasons advanced for the inadequacy in handling the required quantity of rough castings and forgings is that all the machines have not been manned so far. The Committee recommend that immediate steps should be taken to fully utilise the capacity of the Rough Machine Shop so that the Heavy Machine Building Plant and the Heavy Machine Tools Plant are not unduly strained for finishing the castings. The Rough Machine Shop should be got manned suitably to undertake the rough machining work without delay.

I. Production Performance of Auxiliary Units

6.237. Five auxiliary units constructed at the total cost of about Rs. 6 crores to cater to the needs of the Foundry Forge Plant, Heavy Machine Building Plant and the Heavy Machine Tools Plant were commissioned by June, 1966. Due to low level of production in both the Foundry Forge Plant and Heavy Machine Building Plant, all the units are under-utilised as indicated below :—

Name of the Unit	Date of Commissioning	Cost of Plant & Machinery	Brief Particulars	Plant & machinery in use	Cost of idle machinery
1	2	3	4	5	6
		(Rs. in lakhs)			(Rs. in lakhs)
1. Acetylene Plant	May 1966	3·54	2 Units with capacity of 45m³ per hour each	1 Unit	1·77
2. Compressor House	Aug. 1965	46·06	1 Unit of 6000m³ per hour, 2 units of 10,000m³ per hour each.	1 Unit of 10,000m³ per hour.	28·34
3. Oxygen Plant	18-2-1965	66·47	2 Units of 50m³ per hour each, 2 units of 120m³ per hour each	1 Unit of 120m³ per hour.	43·01
4. Gas Producer Plant	23-6-66	411·70 (including cost of building)	22 Units of equal capacity	6 Units	299·42
5. Boiler House	June, 1966	61·33 (including cost of building)	3 Units of equal capacity	1 Unit	40·89
		589·10			413·43

6.238. The Committee enquired as to what was the extent of under-utilisation and the value of idle machinery during 1969-70 and 1970-71 and the reasons therefor. In a written reply the management have furnished the following information :—

"The service facilities in Auxiliary units have been provided for full production capacity. Unless full production capacity is established some service capacity will remain idle.

It is not possible to create the service facilities in a phased manner.

Extent of utilisation and value of idle machinery during 1969-70 and 1970-71 are shown below :

Plant	Extent of utilisation 1969-70	Extent of utilisation 1970-71	Value of idle machinery	Remarks
Acetylene Plant	15%	15%		Though there are 2 units one unit is required to run at a time while the other unit is to be cleaned.
Compressor House ..	60 to 70%	60 to 70%		2 units are working and *one unit is for stand-by or to be under planned maintenance.
Oxygen Plant ..	85 to 90%	85 to 90%		3 Units are working and *one is for stand-by or planned maintenance.
Gas Producer Plant	75%	75%		Although 22 units are installed, not more than 14 work at a time. In** 1969-70, 12 units used to work and in 1970-71, 14 units were working.
Boiler House ..	65%	65% of one boiler	40·89	At the demand for steam is less at present, only one unit out of 3 is working."

*As per local verification done by Audit the Technical Report based on DPR does not indicate that one unit is for stand by or to remain under Planned maintenance.

**According to local verification done by Audit 22 units were to be installed in two rows of which only two were to be kept in reserve.

total cost of about Rs. 6 crores to cater to the needs of the three plants of H.E.C. remained under-utilised due to low level of production in the Foundry Forge Plant and Heavy Machine Building Plant. Acetylene Plant could be utilised only to the extent of 15% during 1969-70 and 1970-71. The Committee find that the service facilities in Auxiliary units have now been provided for full production capacity. The Committee express the hope that with the increase in production in the three plants of H.E.C. the production capacity of the auxiliary units would also be fully utilised.

J. Non-utilisation of surplus capacity of Oxygen Plant

6.240. On 8th August, 1968, and 22nd November, 1968, the Company entered into two contracts for the sale of a minimum of 3,000m³ and 5,000m³ of oxygen per month respectively @ Rs. 91 per 100m³ against which a total quantity of 89,634m³ of oxygen was sold upto May, 1969. More quantity could not be sold due to limited capacity of filling cylinders existing in the Plant. A proposal (March, 1969) by the Chief Engineer (Power), Foundry Forge Plant to increase the filling capacity by 1,200m³ per day or 36,000m³ per month at an estimated capital cost of Rs. 2.05 lakhs is still under consideration of the Management (January 1970). As the variable cost of producing oxygen gas in the Plant is practically nil, the Company could earn extra revenue of Rs. 32,760 per month if filling capacities were increased immediately on entering into sale agreements.

6.241. The Management have stated (January, 1970) as follows :—

"The proposal for installing another compressor is pending ....because, firstly the market for such selling of bottled oxygen is to be developed, secondly volume of oxygen required for lancing, oxygen in steel melting shop will have to be ascertained after the proposal for the process is finalised."

6.242. As regards the development of market for bottled oxygen, it will be seen from the facts mentioned above that the actual sale of bottled oxygen has been more than the contracted quantity.

6.243. In a written reply the Committee were informed that the figure of Rs. 32,762 relates to the year 1968-69. From 1969-70 the sales have increased by Rs. 19,040 per month on account of selling surplus oxygen to ancillary industries and Asiatic oxygen and industrial Gas Ltd. The Management have stated that "in order to increase the full capacity, further action has been taken by asking for quotations for bottling compressor. In this respect quotations have already been received. Further processing is under way."

6.244. The Committee regret to note that due to the delay in finalisation of the proposal for installing another compressor in the oxygen Plant and thereby increasing its filling capacity the Corporation could not earn a revenue of Rs. 32,760 per month in 1968-69 and Rs. 13,722 per month in the year 1969-70. The objective of the Committee in mentioning this instance is to impress that the Corporation should not lose any opportunity to increase its revenue and cut down losses.

K. Consumption of Raw Materials

6.245. The Committee enquired as to what steps had been taken by the Corporation during the last three years to keep a strict watch over consumption of raw materials and whether norms of consumption had been fixed on a scientific basis. They enquired whether there was any method to work out the cost of excess consumption and what was the extent of such excess during the last three years. In a written reply the management have furnished the following information in respect of the three plants :

Foundry Forge Project

6.246. The consumption of major raw materials is being compared with the DPR norms. The position for the last three years is shown below :

Consumption per metric ton

	As per DPR	1967-68	1968-69	1969-70	1970-71
	1	2	3	4	5
G. I. Foundry					
Pig Iron (all types)	0·62	0·64	0·64	0·63	0·90
Scrap (Steel, roll and ingot mould)	0·42	0·40	0·30	0·30	0·30
Non-ferrous Foundry					
For all charging material ..	1·50				
Fire refined copper	—	0·58	0·58	0·55	0·55

	1	2	3	4	5
Elec. copper	—	0·30	0·13	0·10	0·20
Zinc ..	—	0·18	0·12	0·10	0·08
Lead	—	0·01	0·01	0·01	0·20
Steel Foundry					
Steel Scrap	1·24	1·23	1·20	1·20	1·20
Ferro alloys	0·03	0·04	0·03	0·03	0·23

H.M.T.P.

6.247. As the issue of raw materials for production purposes is authorised by the Production Planning Department according to the exact requirements, the question of excess issue of material does not arise. The size and quantity of material for each individual part/component is worked out and indicated in the production and material issue documents.

6.248. There is no scope for excess consumption of material excepting replacement against rejection, the consumption of material can always be compared with the bill of material made before the starting of production.

H.M.B.P.

6.249. Bill of materials sets the guide lines for issue of materials. As per the procedure and quantity in excess of the limit card has to be approved by competent authority. Since the production is of diverse nature, actual consumption per tonne production will not represent true picture.

6.250. Consumption of material is controlled according to bill of materials.

6.251. There are three Steel Fabrication Shops in the Heavy Machine Building Plant. Two of them went into production in 1964 and the third in 1966. Issues of raw materials are made taking into account the volume of scrap likely to arise in the manufacturing process. The Detailed Project Report fixed a norm of 22-21 per cent. for scrap in equipment structurals. Generally scrap of 3 per cent. is allowed to the sub-contractors for fabrication of light and building structurals. No norm has, however, been fixed after taking into account the changed product-mix (equipment and building structurals). The actual percentage of scrap to output during 1967-68 and 1968-69 was as follows :—

S. S. Shop I	S. S. Shop II	New Steel Fabrication Shop
29·1	34·0	8·4

6.252. The Committee enquired whether the break up of production into heavy equipment structurals and light structurals was available. If so, what was the percentage of scrap to output separately for the two types of structurals and how it compared with the percentage allowed to sub-contractors for light structurals and that mentioned in the Detailed Project Report for heavy equipment structurals. They further desired to know the percentage of scrap to the output during 1969-70, separately for the two types of structurals.

6.253. In a written reply the management have stated as follows :—

"Structurals are classified into two categories (i) Blast Furnace Structurals and (ii) Building Structurals. Equipment structurals are treated as part of equipment and not as structurals. According to DPR the proportion of output to input is in the ratio 1 : 1.22 for structurals.

Actual percentage of scrap for structurals is as under :

*1969-70	..	19.6%
*1970-71	.. ..	14.2%

6.254. The Management have stated (January, 1970) that the cutting charts have been introduced to exercise control over the utilisation of raw materials.

6.255. The Committee enquired whether the reasons for variation between the actual scrap percentage and the expected percentage were analysed and remedial measures taken to check the excess scrap arising, if any. The Management have stated that "Periodical review is made of the scrap accrued in production and the actual is compared with the percentage indicated in D.P.R. for taking remedial measures."

6.256. Scrap arising in the Heavy Machine Building Plant is sent back to the Foundry Forge Plant for remelting. Although the issues made to the Foundry Forge Plant for re-melting are weighed there and necessary challans therefor prepared at the time of issue, no record is maintained at the point the scrap arises.

6.257. In the absence of such records, the Committee enquired, as to how it was ensured that the total arising of scrap had been actually utilised.

In reply it has been stated that the "scrap accrued in production is collected from each shop and it is supplied to FFP. Shopwise quantity records are maintained for the scrap collected and supplied to F.F.P."

6.258. The Committee find that the Detailed Project Report fixed a norm of 22-21 per cent for scrap in equipment structurals. The management have, however, not fixed norms for scrap arisings, taking into account the changed product-mix (equipment and Building Structurals).

6.259. The Committee recommend that in the light of experience gathered so far, the Corporation may fix norms for scrap arisings keeping in view the changed product-mix. The Committee would also stress the need for contemporaneous watch being kept on scrap arisings so that remedial action can be taken without any loss of time whenever there is any variation as compared to the norms laid down.

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*Percentage as per local verification done by Audit should be :—

	SFW	SS Shop I & II
1969-70	4·1%	19·4%
1970-71	9·3%	17·4%

No separate records of scrap of the two categories of heavy and light structurals are maintained by the Corporation.

The Committee trust that Corporation would maintain separate records for scrap arising in respect of blast furnace structurals and building structurals so as to compare the actual scrap arising with norms indicated in the Detailed Project Report fixed by the Corporation on the basis of its experience.

L. Rejections

(i) *Foundry Forge Plant*

6.260. The following table indicates the percentage of rejected quantity to the quantity inspected for the items produced in the Foundries and the Forge Shop of the Foundry Forge Plant. (The detailed statements giving the quantity inspected, quantity rejected etc. are given in Appendix IV).

Item	Year	Percentage of rejected quantity to the quantity inspected
1	2	3
(*i*) F. F. P.		
Grey Iron Foundry		
(*i*) Shaped Castings	1964-65	5·69
	1965-66	10·75
	1966-67	8·91
	1967-68	7·72
	1968-69	13·00
	1969-70	15·06
	1970-71	15·44
(*ii*) Ingot Moulds	1966-67	20·53
	1967-68	12·27
	1968-69	2·09
	1969-70	2·56
	1970-71	1·2
(*iii*) G. I. Rolls	1965-66	3·27
	1966-67	29·50
	1967-68	19·24
	1968-69	29·17
	1969-70	9·79
	1970-71	36·46
Non-ferrous Foundry		
(1) Copper Castings	1964-65	4·27
	1965-66	4·20
	1966-67	7·26
	1967-68	8·96
	1968-69	7·38
	1969-70	16·00
	1970-71	13·14
(2) Aluminium Castings ..	1964-65	2·62
	1965-66	3·40
	1966-67	2·57
	1967-68	5·20
	1968-69	4·87
	1969-70	3·66
	1970-71	2·36
Steel Foundry		
(1) Steel Castings	1966-67	2·46
	1967-68	1·69
	1968-69	2·69
	1969-70	4·91
	1970-71	7·18

1	2	3
(2) Steel Rolls	1968-69	67·37
	1969-70	19·52
	1970-71	13·19
(3) Steel Ingots ..	1966-67	—
	1967-68	3·73
	1968-69	5·52
	1969-70	3·79
	1970-71	4·68
(4) Forge Shop ..	1966-67	0·19
	1967-68	4·26
	1968-69	1·79
	1969-70	3·55
	1970-71	8·27

6.261. The quantities of molten metal and production and subsequent inspection stages are indicated in the following table :—

(*Figures in M. tons*)

Year	Liquid Metal	Production	Qty. inspected	Good	Rejection
Grey Iron Foundry					
1967-68 ..	8214·243	6695·019	6039·125	5409·815	629·310
1968-69	10253·207	8648·797	8250·642	7177·249	1073·393
Non-ferrous Foundry					
1967-68	109·871	69·934	77·253	70·592	6·661
1968-69	106·434	63·067	64·290	59·797	4·493
Steel Foundry					
1966-67	1513·829	1228·997	270·819	265·579	5·240
1967-68	4988·127	3665·165	2554·489	2486·767	67·722
1968-69	10620·558	8138·343	6583·010	6260·370	322·640

(Figures in respect of earlier years were not available).

The Detailed Project Report prescribed limits of 6.41 per cent., 0.12 per cent. and 5.92 per cent. for rejections of shaped castings, Ingot moulds and G. I. Rolls respectively in the Grey Iron Foundry. Accordingly, the quantity of rejections should have been limited to 1,113,193 M. tons, as indicated below :—

(*Figures in M. tons*)

	Quantity inspected	Normal rejections		Actual rejections	Excess rejections
		Percentage	Quantity		
(1) Shaped castings 1964-65 to 1968-69 ..	15,112·150	6·41	968·689	1,545·587	576·898
(2) Ingot moulds 1966-67 to 1968-69 ..	4,894·479	0·12	5·873	543·492	537·619
(3) G. I. Rolls 1965-66 to 1968-69	2,341·747	5·92	138·631	570·705	432·074
	22,348·376		1,113·193	2,659·784	1,546·591

6.262. The Committee enquired whether the reasons for excess rejections in the case of shaped castings, Ingot Moulds and G.I. Rolls in Grey Iron Foundry were ascertained regularly. If so what steps were taken to bring down the rejections. In a written reply it has been stated that "the reasons for rejections are analysed and remedial measures taken to control the same. Better supervision and training of supervisors being attempted."

6.263. During evidence the Committee enquired whether the rejections on castings, forgings and cast iron rolls had exceeded the limits prescribed in the Detailed Project Report. In reply it was stated :

> "We do not know whether the rejections are below the prescribed limit because these details have not been prescribed in the project report. Moreover we thought of a particular type of forging and casting and they are not item-wised."

6.264. The Committee pointed out that the Detailed Project Report prescribed limit of 6.41 per cent, 0.12 per cent and 5.92 per cent for rejections of shaped castings, ingot moulds and G.I. rolls respectively. They enquired whether the Corporation did not accept these percentages as given in the report.

6.265. In reply the witness stated that "It is a particular group of castings and not a particular item. In the cases of rolls and shaped castings, we are still on the higher side."

6.266. The rejections are scrapped and used as raw material. While the scrap values of rejected shaped castings, Ingot moulds and G.I. Rolls are Rs. 326, Rs. 326 and Rs. 167 per M. ton, the lowest cost price during the year 1968-69 amounted to Rs. 1,627, Rs. 943/- and Rs. 2,856 per M. ton respectively. On this basis, the excess rejections have resulted in a loss of Rs. 22.44 lakhs.

6.267. In respect of other items no norm for rejections has been fixed either in the Detailed Project Report or separately by the Management. As such, excess rejections if any, in respect of the other items of manufacture could not be ascertained.

6.268. The Committee enquired as to how control was exercised on rejections in these cases in the absence of any norms and why norms could not be fixed on the basis of past experience. In a written reply it has been stated that norms are being worked out. The items to be produced are of varying specifications and quantum of repeat items is not substantial at present. A number of items are in development stage."

(ii) *Heavy Machine Building Plant*

6.269. The Detailed Project Report of Heavy Machine Building Plant does not indicate any norms of rejections. The following statement indicates the rejections during 1967-68 to 1970-71 and the percentage thereof to the quantity inspected :—

(In m. tons)

Year	Quantity inspected (including repairable rejections put-up subsequently	Quantity finally passed	Repairable rejections		Final rejections		Percentage of final rejections to total quantity inspected
			Qty.	Percentage to total quantity inspected.	Due to material defects	Due to machining defects	
1	2	3	4	5	6	7	8
1967-68	18,280·597	14,652·400	3,523·891	19·3	71·402	32·904	0·6
1968-69	28,321·230	23,768·300	4,281·749	15·1	257·594	13·587	1·0
*1969-70	24,462·0	23,777·0	2,674·5	10·9	664·0	21·0	2·8
1970-71	21,160·0	20,460·0	1,132·2	5·34	667·0	34·0	3·31

The Audit para indicates that figures of repairable and final rejections for the earlier years are not available.

6.270. In a written reply the Committee have, however, been informed that "Records were available for earlier years. Maintenance of proper records has, however, been improved subsequently."

6.271. It will be seen that although the percentage of repairable rejections gradually declined the percentage of final rejections to the total quantity inspected however, showed an upward trend.

6.272. The Committee enquired as to what was the reason for the gradual increase in the percentage of final rejections to the total output inspected. In reply it has been stated that "the nature of the job is now more complicated and more of mechanical equipment is now being produced."

6.273. During evidence the Chairman, HEC stated as follows :—

> "In the earlier years we were confining ourselves mostly to structural work whose rejections were very low. But year to year, we are increasing our mechanical equipment content. From year to year we are making more new machines where the percentage of rejections is more than in structural work.
>
> Another thing is that I find that in 1969-70 a large percentage of it is due to the fault in the material itself. In the case of material we get from outside there is hardly any control we can exercise except a superficial examination of the castings. A casting is something about which nobody can say anything much. Then again, this is a new type of work that we are handling in this country and in the manufacture of castings there is not much of repetition; every item

*According to the local verification done by the Audit the figures should be as follows :—

1	2	3	4	5	6	7	8
1969-70	17·026	16340	2675	15·7	664	22	4·03
1970	21·863	21161	1132	5·2	668	34	3·21

is new. So for some time I am afraid a percentage of rejections will be there. Although we hope to overcome them in time, for some time it will be slightly higher than normal."

6.274. The Committee enquired as to what steps were taken or proposed to be taken to check this rising trend. In a written reply the management have mentioned the following steps being taken :—

(i) better supervision and control at different stages of production;

(ii) training of supervisors.

6.275. Asked whether the management have since fixed any norms for repairable rejections on the basis of past experience, it has been stated that 'norms are being worked out.'

6.276. Most of the forgings and castings were supplied by the Foundry Forge Plant in an unmachined condition. Therefore, material defects could not be detected before the forgings and castings were sent to the shops of Heavy Machine Building Plant for machining. The rejections, which are not recorded according to products, are due to under cuttings, oversized bores or keyways, undersize shafts, improper surface finish, etc. Carelessness of operators and inadequate supervision are stated to be the reasons for these defects.

6.277. The material defects consist of cracks, blow holes, etc., in castings and forgings. For final rejection due to material defects, heavy Machine Building Plant obtains free replacements from suppliers (mostly Foundry Forge Plant); cost of salvaging repairable rejections was not recorded separately till August, 1969.

6.278. The cost of repairable rejections has not been properly recorded even after August, 1969 as would be evident from the following extract of the Quarterly Financial Review for the quarter ended 31st March, 1970.

"Accounting for repairable rejections :

A circular was issued regarding Rejections of castings and forgings, both repairable and irrepairable rejections *vide* our circular No. HMB/FIN/CA/586/678, dated 30th August, 1969. In this circular it was specifically mentioned that man/machine hours spent for rectification of repairable rejections should be booked against separate work orders opened by the shops concerned for ascertaining the cost of rectification. A new series of work orders have been allotted for this and communicated to shop superintendents. These instructions have not been fully implemented by all the shops. This is being pursued."

6.279. The Committee enquired as to why proper record was not maintained in this regard and what was the cost of repairable rejections during 1969-70 (after August, 1969) on the basis of whatever records had been maintained? In a written reply the management have furnished the following information :—

"As the proper time booking systems has not been introduced it has not been possible to evaluate the cost of salvaging repairable rejections, with the introduction of Time Booking and incentive scheme, this would also be taken up."

(iii) *Heavy Machine Tools Plant*

There has been no rejection on the finished products. However, in the manufacture of equipments there had been rejections below 2.5% due to defect in material on the workmanship.

6.280. The Committee note that the Detailed Project Report had prescribed norms of rejection for shaped castings ingot moulds, G.I. rolls and on the basis of these norms, it has been worked out that the excess rejections for the years 1964-65 to 1968-69 amounted to Rs. 22.44 lakhs. In view of the heavy amounts involved in these rejections, the Committee would stress the need for taking remedial measures to see that the percentage of rejections is immediately brought down within the norms envisaged in the Detailed Project Report and in fact it should be possible to further reduce the incidence of these rejections by improving quality of materials and production and by imparting training to workers and supervisors at all levels.

6.281. The Committee note that the Detailed Project Report did not lay down the percentage of rejections for several other categories of manufacture which are now being undertaken in the Corporation. The Committee would like the Corporation to lay down strict norms for these rejections so that it is possible to evaluate the performance and take necessary remedial measures to reduce losses on account of rejections.

6.282. The Committee find that the Corporation are not maintaining record of the cost of salvaging repairable rejections, as proper time booking system had not been enforced. The Committee would like proper record of the cost of salvaging repairable rejections to be maintained and analysed contemporaneously in the interest of taking timely remedial measures.

6.283. The Committee would like to be informed of the action taken on the above recommendations within three months.

M. Quality Control

6.284. The number of cases where deductions have been made by the customers, or the Management on account of defective materials supplied to the customers during 1967-68 to 1970-71 are furnished below :

Year	No. of cases	Amount involved (Rs. in lakhs)	Percentage turn over
1967-68	9	2·28	0·5
1968-69 ..	13	2·16	0·2
1969-70	7	1·00	0·05
1970-71	5	2·49	0·10

6.285. The Committee enquired whether any complaints had been received from the customers regarding the quality of products manufactured by the Corporation. In a written reply it has been stated that "there have been few cases where the material supplied have been rejected by the customers due to quality but the same have been replaced or rectified."

6.286. Asked as to what steps had been taken by the management to maintain the quality of products manufactured by the Corporation, it has

been stated that "there is a separate inspection and quality control department in each of the three plants and as the products are tailor made each and every part/unit is checked during the course of manufacture. Thereafter finally assembled equipment is also inspected and tested."

6.287. The Committee recommend that the quality control and inspection in all the units should be improved so as to obviate the complaints from customers regarding the quality of products manufactured by the Corporation. The Committee need hardly stress that the Corporation should spare no efforts to win the confidence of their customers by supplying flawless quality equipment and machinery.

N. Idle hours of Labour and Machinery

(i) *Foundry Forge Plant*

6.288. No record is maintained to indicate the utilisation of machines and labour in any of the main production shops. Only the pattern Shop, Rough Machine Shop and Tool and Die Shop maintain some records which reveal the following facts :

Shop	Period	Man-hours available	Man-hours utilised	Idle Hours	Percentage of idle hours
Pattern Shop.. ..	Jan. 68 to Dec. 68	5,74,464	4,50,302	1,24,162	21·6
Rough Machine Shop	1-6-68 to 31-12-68	81,184	57,974	23,210	28·6
Tool & Die Shop ..	1966-67	85,779	69,991	15,788	18·4
	1967-68	82,564	55,784	26,780	32·4
	1968-69	1,10,677	67,935	42,742	38·6

6.289. The Committee enquired as to what were the reasons for not maintaining the records. They further enquired as to whether the reasons for idleness were being analysed now and what remedial measures were being taken.

In a written reply it has been stated that :

"Construction and production phase were simultaneously going on. As the production activities tended to stabilise, the procedure and proforma for keeping records of utilisation of men and machines were devised. This could not be implemented in toto because of lack of manpower in the shops. Weekly reports of non-utilisation of machines and men are being kept.

For vital equipment like Furnace in Steel Foundry and Heavy Presses in Forge Shop daily down time record is being maintained and reviewed."

6.290. The Board of Directors of the Company was informed in 1968 that procedures for recording idle time would be introduced during that year, but no such record had been maintained.

6.291. The Management informed Audit in February, 1970 as follows :—

"....the entire matter is separately under examination by the consultants. There are certain difficulties as the production facilities have not been stablished as yet, the construction work being still in progress in some shops."

6.292. In the Quarterly Financial Review for the quarter ending 31st March, 1970 the following observations were made :—

"*Idle Time* (*Labour and Machinery*)

Although procedures have been laid down for recording these with effect from first April, 1969, their implementation has not been properly made in all the Shops."

(ii) *Heavy Machine Building Plant*

6.293. The following statement regarding utilisation of labour hours and machine hours for the period 1964-65 to 1970-71 would show that the utilisation of labour and machine hours was much below the total hours available :—

Year	Labour			Machine		
	Available hours.	Idle hours	Percentage of Idle hours to available hours	Available hours.	Idle hours	Percentage of Idle hours to available hours
1964-65 ..	10,83,823	4,45,519	41·11	10,88,304	6,83,063	62·76
1965-66 ..	18,53,289	9,64,186	52·03	23,35,224	18,31.331	78·42
1966-67 ..	24,41,604	13,33,333	54·61	25,05,040	18,49,615	73·84
1967-68	31,53,599	17,85,080	56·60	21,25,998	15,05,162	70·80
1968-69 ..	32,75,094	13,75,968	42·01	24,69,154	16,69,237	67·60
1969-70 ..	30,55,316	15,05,563	50·00	20,95,686	13,45,267	64·2
1970-71 ..	36,55,196	15,58,133	43·00	21,93,884	12,38,118	61·00

6.294. The money value of idle labour hours during the five years and of idle machines during the last two years (figures of the first three years not being available) amounted to Rs. 86.18 lakhs and Rs. 350.08 lakhs respectively.

6.295. A detail analysis of the idle hours of labour and machines for the year 1967-68 and 1970-71 is also given below :-

Reasons for idle time	1967-68		1968-69		1969-70		1970-71	
	Idle hours	Percentage	Idle hours	Percentage	Idle hours	Percentage	Idle hours	Percentage
1	2	3	4	5	6	7	8	9
Labour								
(*a*) Want of job	31,568	3·0	1,01,114	18·9	83,425	9·4	57,847	7·2
(*b*) Want of tools	7,051	0·9	20,663	3·9	8,462	1·0	2,383	0·3
(*c*) Mechanical and Electricals Breakdowns	14,662	1·8	28,759	5·4	12,869	1·5	5,901	0·7
(*d*) No crane facility	5,017	0·6	20,915	3·9	17,890	2·0	13,758	1·7
(*e*) No materials	37,481	4·7	43,068	8·0	75,421	8·5	55,454	6·9
(*f*) Want of Drawing and Technology	2,947	0·4	1,101	0·2	3,437	0·4	130	—
(*g*) Other reasons	78,136	9·8	96,483	18·0	1,51,362	17·1	1,05,087	13·1
(*h*) Direct labour hours engaged on Indirect jobs	45,993	5·8	86,994	16·2	1,27,708	14·4	33,828	4·2
(*i*) Tools down strike	10,611	1·3	—	—	47,056	5·3	88	—
(*j*) For which no reasons were given	5,66,010	70·8	1,37,138	25·5	3,58,172	40·4	5,29,805	65·9
	7,99,476	100	5,36,235	100	8,85,802	100	8,04,281	100
Machine								
1. Capacity which could not be used for want of operators	5,19,558	34·8	8,29,504	49·7	5,01,654	37·4	3,49,255	28·2
2. For want of job	1,87,051	12·4	3,00,079	17·9	1,20,624	9·0	65,894	5·3
3. For want of tools	32,047	2·1	53,860	3·2	1,09,471	8·1	83,542	6·7
4. Mech. & Elec. Breakdowns	73,650	4.9	1,09,479	6.5	92,508	6.9	1,00,407	8·1

5.	No crane facility	2,448	0·2	4,732	0·3	17,658	1·3	13,242	1·1
6.	No materials	42,860	2·9	22,691	1·4	21,248	1·6	8,976	0·7
7.	Want of Drawings and Technology	4,035	0·2	456	—	657	—	37	—
8.	Other reasons	1,57,070	10·4	1,14,151	6·9	1,71,459	12·7	1,69,642	13·7
9.	Hours engaged on indirect jobs	2,990	0·2	—	—	—	—	—	—
10.	Tools down strike	35,241	2·4	—	—	47,213	3·5	58	—
11.	For which no reasons were given	1,48,211	29·8	2,34,135	14·1	2,62,780	19·6	4,47,066	36·2
		15,05,162	100	16,69,237	100	13,45,267	100%	12,38,118	100%

NOTE :—The operators of the machines were also idle for the same reasons as given in serial numbers 2 to 11 above. The idle hours of operators are, therefore, not included in the analysis of idle labour-hours shown separately.

The extent of idle labour hours would become abnormally high when the idleness on account of the factors mentioned at items 2 to 11 against idle hours of machines is also added.

6.296. The Committee pointed out that the percentage of idle labour hours for want of jobs, tools, crane facility and materials increased during 1968-69 as compared with 1967-68. They asked how this increase was justified in the context of the fact that the Corporation had not been able to attain the targetted production nor to adhere to the delivery schedule or the sequence of delivery. The Committee enquired whether reasons for idleness of labour on account of these factors which were apparently of a controlable nature had been investigated and remedial steps taken. If so, what were the reasons for deteriorating trend during 1968-69.

6.297. The Committee further enquired as to why the reasons for idleness of labour to the extent of 25.5% were not ascertained. Whether proper system has now been introduced to analyse the reasons for the total number of idle labour hours so as to exercise proper control thereon.

6.298. During evidence the Managing Director explained that "the time clocks have now been introduced. With them, we are intending also to introduce the integrated time keeping and time booking system with the use of Punch Clock. This will give us a fairly fool proof system of analysing the data which comes up." Asked whether the punch clock system had been introduced, he replied "we will introduce this system progressively."

6.299. The Committee enquired as to why the time clocks had not been introduced earlier. The Chairman, HEC replied that "actually our relationship with labour was not satisfactory to be able to do so. In fact an attempt was made. But they were broken. I am told that once an attempt was made to ask the people to punch. The punching clocks were all available, we did not purchase. I am told that people had broken them." He further stated that the Corporation have now come to an understanding with labour. With their consent they have introduced the punching clocks. Asked as to why the system was not introduced from the very beginning the Chairman, HEC stated as under :—

"I am not able to say why it was not introduced from 1961. Attempts were made from 1965."

6.300. As regards the idleness of machines the Committee pointed out that the factors which appeared to be of a controlable nature like idleness of machines for want of operators, for want of jobs, for want of tools, for want of crane facility and for want of materials have accounted for the major portion of idleness of machines. They enquired as to how the idleness on account of non-availability of operators was justified when the total number of personnel on roll exceeded the project figure. The Managing Director replied "We are still not able to man all over equipment round the clock or in double shift. In a number of places, we are running a single shift. At the same time the conditions in which the D.P.R. is made by the collaborators have anticipated the lesser requirement of indirect workers. In Indian conditions certain varieties of work will not be done by direct workers."

6.301. The Committee observed that a team of Soviet experts who visited the plant and studied the state of production with reference to utilisation of its capacity *inter alia* observed (March, 1968) that out of the machines installed there was 150 large and unique machines which were manned with the lowest strength of operators who required long term training by highly skilled instructors. The Team further observed that there was a shortage of 661 workers at other production sections while the total number of personnel surpassed the project figure by 938 persons.

6.302. The Committee understand that in accordance with the team's suggestion, 42 Soviet Foremen Instructors are being deputed to train Indian workers to work on large and unique machines. The expenditure on the engagement of these instructors is estimated at Rs. 21.61 lakhs (including Rs. 20.70 lakhs in foreign exchange). This expenditure will be in addition to the amount of Rs. 160.91 lakhs spent during the last 3 years on the engagement of Soviet experts for assistance in production. 242 Indian Engineers and technicians have already been trained in the past in U.S.S.R. and an expenditure of Rs. 30.86 lakhs (in foreign exchange) was incurred on their training.

6.303. The Management had expected that with the engagement of Soviet instructors, the utilisation of the machines would improve.

6.304. During evidence the Committee enquired whether there was still shortage of trained men. In reply the Managing Director, HEC stated that "There is a considerable shortage". He further stated that "this shortage is in regard to manning of equipment and availability of trained people. We are progressively recruiting more people every year and filling up vacancies. Over a period of about six years, we shall eliminate the shortfall". The Committee enquired whether the Corporation was depending upon the collaborators for the training programme, the Managing Director replied that "For highly specialised machines and processes, we are depending on them. Most of the trainees are Indians who can impart the training later". The Committee pointed out that there was surplus staff. They enquired as to why the surplus staff was not used for training. The Managing Director replied as under :—

"There are two types of workers—direct and indirect. Unfortunately, in India, we employ much more indirect workers. So, by and large, we get a large number of indirect workers and that is why there used to be some surplus staff which is more than the foreign countries are using."

6.305. In Para 63 of the 14th Report of the Committee had observed as follows :—

> "One of the reasons for idle machinery was lack of scientific planning for production for different shops. As pointed out by the FA & CAO of the Corporation, at present planning is done in a general manner without specific reference to the machine-wise available capacity and without taking into consideration the normal time in terms of standard time, required to complete the various jobs, with the result that it is difficult to analyse which part of idle time relates to want of load and which part to other reasons. In the absence of such planned loading of the shops it is difficult to ensure proper utilisation of machines. The Committee, therefore, desire that early action should be taken to work out the standard hours for all jobs. This would also help the plants in working the incentive bonus scheme for the workers. The norms so fixed could of course be reviewed in the light of experience gained on production in different shops. In their reply dated 9-1-69 the Ministry stated that "HMBP is in its initial stages of production. The standard hours are now under compilation on the basis of norms furnished by the Soviet Union."

6.306. The Committee enquired whether standard hours for all jobs have since been fixed and whether such norms from the basis of any incentive scheme. In a written reply dated 18-12-71 the Committee have been informed as follows :—

"The Production being of individual characteristics it has not been possible to fix the standard hours for all jobs". The management have added that "no comprehensive incentive scheme has been introduced. Only *ad-hoc* incentive scheme had been introduced in certain sections of Foundry Forge Plant.

Preparatory steps are now being taken for the progressive introduction of Incentive Scheme.

The *ad-hoc* incentive schemes have not been found very effective so far."

6.307. The Committee on Public Undertakings (1967-68) in para 62 of their 14th Report on Heavy Engineering Corporation Ltd. (Fourth Lok Sabha) expressed their concern about this anomolous position of shortage of suitable persons for running the plant and at the same time a large force of idle workers. The Committee recommended that Government should carefully analyse the reasons for this alarming situation and take immediate remedial measures.

6.308. In their reply dated 9-1-1969 the Ministry *inter-alia* stated that HEC have decided to put the Industrial Engineering Department which has come into being recently to study the present proforma and revise it in order to get correct reporting of productivity, idle time, etc. They will move into the shops and explain and train the supervisors for correct reporting and the utilising the spare men and machines.

6.309. The Committee enquired as to what progress had been made by the Industrial Engineering Department in this regard and how far labour productivity had improved during 1967-68 to 1970-71. In a written reply the management have stated as under :—

"Preparatory steps for introduction of incentive schemes are being taken. Procedures for introducing incentive schemes are being laid down. Integrated system of time keeping with the aid of Time Punching Clocks has been introduced. Training of supervisors is in progress. Comparative figures on utilisation of machinery and labour consequent to the introduction of incentive schemes as such are not yet available".

(iii) *Heavy Machine Tools Plant*

6.310. The Plant started production in January, 1967. No record of idle labour and machines was, however, maintained till 1-4-1968. The position relating to 1968-69, 1969-70 and 1970-71 is given below :—

Year	Labour			Machines		
	Available hours	Idle hours	Percentage of idle hours to available hours	Available hours	Idle hours	Percentage of idle hours to available hours
1968-69 ..	3,21,253	1,46,308	45·12	2,84,592	1,57,407	55·31
1969-70 ..	3,42,511	1,11,396	32·52	3,79,071	2,21,727	60·93
1970-71 ..	5,05,678	1,02,516	20·27	4,86,615	2,40,803	49·48

6.311. The money value of the idle labour hours and idle machine hours for 1968-69 as indicated above, amounts to Rs. 2.56 lakhs and Rs. 17.55 lakhs respectively.

6.312. The Committee enquired as to what were the reasons for not maintaining the records. In a written reply it has been stated that "The production upto 67-68 related to the assembly of machine tools from completely knocked down components obtained from Czechoslovakia. Since the machines were not being used substantially the records of idle labour and machines were not maintained."

6.313. A detailed analysis of the idle hours of labour and machines for 1968-69 and 1969-70 is also given below :—

Reasons for Idle time	1968-69		1969-70		
	Idle time in hours	Percentage	Idle time in hours	Percentage	
Labour					
Absenteeism	56,702	38·8	—	—	
No Job	21,941	15·0	17,398	15·6	
Machine Breakdown ..	11,377	7·7	18,886	17·0	
No Power	1,976	1·4	1,763	1·6	
No Tools	21,940	15·0	18,129	16·3	
No Material	5,528	3·7	11,608	10·4	
Awaiting Transport ..	5,657	3·9	7,818	7·0	
Awaiting Instructions ..	21,187	14·5	28,609	25·7	
			3,09	2·8	(Training)
			4,076	3·6	(Tools down strike)
TOTAL	1,46,308	100·0	1,11,396	100	
Machines					
No operator ..	41,835	26·6	70,313	31·7	
No Job	29,313	18·6	40,142	18·2	
Machine Breakdown	31,305	19·9	23,352	10·6	
No Power	1,423	0·9	1,611	0·8	
Absenteeism ..	11,668	7·4	29,673	13·4	
Awaiting Instructions	12,807	8·1	18,081	8·2	
Awaiting Tools ..	12,237	7·7	19,588	8·8	
Awaiting Transport	12,522	8·0	5,499	2·0	
Awaiting Material ..	4,297	2·8	8,161	3·2	(Training)
			2,807	1·4	
			2,480	1·1	(Tools down strike)
TOTAL	1,57,407	100·0	2,21,727	100·0	

6.314. The available and idle hours of machines mentioned in the above table do not include the available hours in respect of machines valued at Rs. 323.27 lakhs but lying entirely idle.

6.315. The Committee enquired as to how the Management justified the idleness of labour and machines on account of factors like want of tools, want of materials and want of instructions in the case of labour and want of operators, want of job, want of instructions, want of transport and materials in the case of machines in the context of the fact that the actual production during 1968-69 was only 34.2% of the targetted production. The Committee pointed out that the position during 1969-70 actually deteriorated so far idleness of labour for want of job, tools, materials and instructions was concerned. In the case of idle machine hours, the position during 1969-70 became worse as regards idleness accounted for by lack of tools, operators, materials, and instructions was concerned. They enquired as to what were the reasons for this deteriorating trend even in factors of a controlable nature.

6.316. In a written reply the management have stated that deficiencies in organisation account for idleness of labour and machines resulting in low productivity and consequent low performance.

6.317. As regards the available hours in respect of machines valued at Rs. 323.27 lakhs but lying entirely idle it has been stated that :—

> "The bulk of machinery and equipment needed for the establishment of the plant was supplied.... under the first Czech credit. As per the Detailed project Report the plant is scheduled to reach the optimum production of 10,000 tonnes progressively in four phases—duration of each phase.....being of 1½ years. The erection of heavy plant and machinery never the less could not be staggered in line with need of each phase.....It was considered advisable from all accounts to erect all the machinery at one stretch.....but to commission them for regular production work as the stage for their need arrived..... These machines are being so to day 'de-concerned' and commissioned for production work with reference to the progressively rising production target."

6.318. The Committee enquired whether this meant that the contract for the supply of the machinery was defective? In a written reply the management have furnished the following information :—

> "Machinery & equipment were procured from Czechoslovakia, Japan and other European countries against various credits. Unless firm orders were placed with delivery schedules as indicated by the various foreign manufacturers/suppliers, it would not have been possible for us to get the detailed foundation drawings of the relevant machinery. In that event, it would not have been possible to determine the layout of the plant and proceed with its construction—the equipment and machinery of which are housed in one block under one roof. Phasing the orders for supply of machinery and equipment would have also meant staggering of the erection and foundation work in the Plant construction and in that case it would not have been possible, for technological reasons, to erect, commission and put to production the machines received against earlier orders, while engaging in extensive blasting of the rocky sub-strat alongside for foundation and erection of the machines that were to have been ordered and received subsequently. Prolongation of the erection work would have entailed in extra expenditure on Foreign experts."

6.319. The Committee enquired whether any of these machines had since been put to use, if so what was the extent of their utilisation. In reply it has been stated that "Yes, the machines have since been put to use. The overall utilisation of machines during 1970-71 was 50.52 in one shift."

6.320. The Committee take a serious note of the fact that no record was maintained to indicate the utilisation of machines and labour in any of the main production shops of the Foundry Forge Plant. As regards the reasons for not maintaining records it has been stated that there were certain difficulties as the production facilities had not been stabilised as yet and that the construction work was till in progress in some shops. The Committee fail to understand as to how the construction work obstructed the maintenance of idle time record as the Committee find that under similar circumstances, when the construction work was going on in the Heavy Machine Tools Plant during 1968-69, the idle time record was being maintained. In the case of Heavy Machine Tools Plant also no record of idle labour and machines was maintained till 1st April, 1968 although the production in this plant started in January, 1967.

6.321. The Committee further find that in the case of Heavy Machine Building Plant no reasons for idle time to the extent of 70.8%, 25.5%, 40.4% and 65.9% have been indicated by the management for the years 1967-68, 1968-69, 1969-70 and 1970-71 respectively. 'Other reasons' account for 9.8%, 18%, 17.1% and 13.1% of the idle time. No reasons for the idle machines to the extent of 29.8%, 14.1%, 19.6% and 36.2% have been given for above years whereas the 'other reasons' account for 10.4%, 6.9%, 12.7% and 13.7% of idle machinery. This clearly indicates that no proper records were being maintained by the management during all these years.

6.322. The Committee are left with the impression that such gross ommission in the maintenance of records of idle manpower and machinery could not take place without the knowledge of management. The Committee cannot too strongly stress that not only proper records should be kept of idle labour hours and idle machine hours but that these should be systematically analysed with a view to take timely action to eliminate such wastage of productive resources. The Committee would like to be informed in detail of the arrangements made in this behalf.

6.323. The Committee find that utilisation of labour and machine hours in all the plants of the Heavy Engineering Corporation was much below the total hours available. In the case of HMBP the percentage of idle labour hours to available hours varied from 41% to 56% during the years 1964-65 to 1970-71. The percentage of idle hours of machines to available hours varied from 61% to 78%. The money value of idle labour hours during 5 years i.e. for the year 1964-65 to 1968-69 and idle machines during the last two years viz. 1967-70 and 1960-69 (the figures of first three years are not being available) amounted to Rs. 86.18 lakhs and Rs. 350.08 lakhs respectively. In the case of Heavy Machine Tools Plant, the percentage of idle hours of labour to available hours during 1968-69 to 1970-71 was 45.12%, 32.52% and 20.27% respectively. The percentage of idle hours of machines to available hours was 55.31%, 60.93% and 49.48% respectively. The Committee further note that the percentage of idle hours of machines in HMTP do not include the available hours in respect of machines valued at Rs. 323.27 lakhs which were lying entirely idle.

6.324. The Committee are shocked to find that in spite of their highlighting in their 14th Report on Heavy Engineering Corporation Ltd. (presented in April, 1968) that the machines were not being put in use for want of trained operators, this handicap continues to persist and accounts for idleness of machines to the extent of about 29% (HMBP) in 1970-71. The Committee are baffled by shortage of trained personnel on the one hand and idle labour hour on the other. Obviously, there has been no purposeful effort to utilise the available manpower for productive purposes, otherwise they can see no reason why it was not found possible during all these four years to train up adequate number of persons in the duties of operators.

6.325. The Committee reiterate that the Corporation should work out without further loss of time an incentive scheme in consultation with experts and workers' representatives so that there is in-built incentive for greater production.

O. Diversification

6.326. As regards diversification of production the management have informed the Committee as follows :—

"There is enough load in our regular lines of manufacture. However, gaps in available technology are being filled by additional agreements as given below. These however are not divertification in the true sence.

(i) *Continuous Casting plants.*—Agreement has been signed with M/s. Licensintorg USSR for obtaining the know-how for radial, curvilinear and vertical type of machines.

(ii) *Crankshaft scheme*

Agreement has been signed with M/s. National Forge of America and with M/s. CAFL of France for getting the know-how for taking up the manufacture of crankshaft in HEC. The scheme envisages augmentation of some existing facilities available in FFP.

(iii) A protocol has been signed with M/s. Strojimport of Czechoslovakia for obtaining know how for the manufacture of Deep Hole Boring Machines and Centre Lathes required by Defence Department.

(iv) An Agreement has been finalized to enter into collaboration with M/s. Hegenscheidt of West Germany for the manufacture of special Railway Machine Tools.

(v) An agreement has been signed with M/s. D.L.H. of West Germany for the manufacture of Ore handling equipment."

6.327. The Committee note the efforts which are being made for diversification of producion in Heavy Engineering Corporation. The Committee need hardly stress that diversification programme should be most carefully devised after mature consideration so that it fits in with the main objective of the Corporation which is to produce machinery and equipment for setting up steel plants in the country.

P. Exports

6.328. The Committee enquired as to what steps had been taken during the last three years in finding expert market for the products manufactured by H.E.C. In a written reply the Management stated as under :—

"H.E.C. is not even meeting the internal demands of the country anywhere near the full requirements. However, in view of the fact that export of sophisticated heavy engineering goods will take considerable effort and time to materialize and as after HEC reaches full production, exports will play an important role in generating load for it, work on export promotion has been taken up since the last few years.

6.329. During the last three years quotations have been submitted as under :—

Year	No. of quotations	Total value in US $
1969	—	39,53,430
1970	34	88,23,157
1971 (Upto Sept.)	28	117.88,132

6.330. In reply to another question the Committee were informed that "a number of quotations have been submitted for Export but no orders have materialised so far except for an order for supply of 500 Nos of Cast Iron Frames & covers to Jordon at a value of £ 13,500 C & F Aquaba. This order has been executed in 1969-70.

A protocol has been signed in September, 1970 for manufacture and supply of 1500 Nos of 6 tonnes capacity container cranes and 1000 Nos. reduction gear boxes to U.S.S.R. Quotation has been submitted but the price is very high compared to world market. Till production and productivity increases considerably we shall not be able to complete economically.

Engineering projects India Ltd. has been established with a view to take up turnkey projects within the country and also abroad in which H.E.C. is likely to make the maximum contribution by supplying machinery equipment for project overseas."

6.331. The Committee enquired whether the possibilities of participation of the Heavy Machine Building Plant in export by India to third countries like UAR and Iran of equipment for complete plants had been explored and if so, with what results. They further asked whether the possibility of exports to European countries like France, West Germany and Britain has also been exported and if so, with what results ?

6.332. In reply it has been stated as follows :—

Protocol signed on 27-11-68 between Mr. S. A. Skachkov, Chairman, State Committee on the USSR Council of Ministers for Foreign Economic Relations and Mr. F. A. Ahmed, Minister of Industrial Development and Company Affairs among other things provide :

"6. The two sides agree to examine possibilities of participation of the heavy machine building plants, set up in India with Soviet Co-

operation in export by India to third countries of equipment for complete plants. This question will be further discussed by the sides."

6.333. Subsequently in protocol dated 20-2-70 signed by the Minister of Industrial Development, Internal Trade and Company Affairs and Mr. S. A. Swachdow, Chairman of the State Committee of the USSR Council of Ministers for Foreign Economic Relations among other things provides :—

"The two sides agreed that detailed examination should be made at expert level, as early as possible for identification of the possibilities of exports, of products manufactured in Soviet assisted plants in India to third countries and for consideration of various aspects connected with the implementation of programmes of India's participation in Soviet assisted projects in such third countries. In particular, the Soviet side would examine the possibilities of assisting in exports of turbosits and components to be produced to Heavy Electrical Plant at Hardwar."

6.334. During discussions reference was made to the projects in UAR and Iran which were to be taken up by USSR. Chairman, HEC visited Cairo during September 1969. He met UAR authorities and discussed the possibilities of supply of equipment for Helwan Steel Plant in the above back ground. The proposal did not materialise. Regarding Heavy Machine Building Complex in UAR, M/s. Prommashexport of USSR who are associated with the project report were contacted. No specific proposal has materialised.

6.335. Details of the items that could be supplied from HEC for supply to the plants being set up by Soviet Union in third countries was furnished to Economic Counsellor, USSR Embassy in August 1970. No firm proposal has materialised so far. Possibilities of export to European countries like France, West Germany and Britain have also been explored. Quotations for excavators, forged shafts, iron and steel castings, machine tools etc. were submitted. All these countries required supplies with a shorter delivery period than HEC could offer. The price of HEC manufactured items has been found considerably higher than our competitors. As already indicated we are keeping in touch with foreign market trends and as production picks up and prices become competitive, we may overcome these twin handicaps.

6.336. The Committee note that the Heavy Engineering Corporation have so far been able to secure only one order for the supply of 500 numbers of Cast Iron Frames and covers to Jordan at a value of £ 13,500. C.F. Aquaba. In view of the fact that a large percentage of the capacity available in the Heavy Engineering Corporation continues to remain unutilised, the Committee would stress the need for exploring all avenues for export, after meeting the internal demand, so that the Corporation can reap the benefit of production on large scale and also contribute its share in the earning of foreign exchange.

Q. Future Production Programme

6.337. The Committee enquired as to what was the latest position regarding the steel programme which was proposed for implementation during the next 10 years. In a written reply the Committee have been informed as follows :—

"Keeping in view the increasing demand of steel in the domestic market as well as to develop our exports including those of engineering

industries based on steel, it has been planned to step up the production by way of expansion of existing capacities, improvements and modifications in the existing production facilities as well as by creating additional new capacities.

The following steel development programme has been included in the Fourth Plan :—

(i) Completion of the project already in hand and to secure the optimum output from the existing facilities through introduction of technological improvements, additional balancing and finishing facilities to be progressively implemented over the next ten years.

(ii) Continuation of Bokaro to 4 million tonnes stage.

(iii) Expansion of Bhilai Steel Plant to 4.2 million ingot tonnes of steel for production of billets and plates.

(iv) Expansion of alloy steel plant, Durgapur.

(v) CRGO Sheet Project at Rourkela.

The Fourth Plan Steel Development Programme envisaged stepping up of existing production capacity of 9 million tonnes ingot steel to 19 million tonnes by the end of 5th Plan period, as follows :—

(a) Existing capacities	9.0 M.T.
(b) Additional capacities :	
Bhilai's III stage expansion ..	1.7 M.T.
Bokaro's I & II Stage ..	4.0 M.T.
IISCO's expansion ..	0.3 M.T.
Vizag and Hospet Projects	4.3 M.T.

It is further envisaged that demand will increase to such a level that a capacity of 30 million tonnes ingot steel would be required to be created by 1983-84 and timely action would have to be taken for creating this additional capacity in order to fulfil the demand."

6.338. The Committee asked as to what steps had been taken to book orders in advance so as to draw a realistic production programme so as to ensure that the plant does not suffer from idle capacity. In a written reply the management have stated as follows :—

"Orders for Equipment and structurals required for expansion of Bokaro Steel Limited from a capacity of 1.7 M.T. to 4.0 M.T. have already been received.

(ii) Discussion have taken place and orders are expected for the Korba Al. Project.

(iii) A broad analysis of the likely orders for the following development programmes has been made. The analysis reveals that adequate work-load would be available.

(i) Expansion of Bhilai Steel Plant from 2.5 M.T. to 4.0 M.T. capacity.

(ii) New Steel Plant at :

(a) Hospet.

(b) Salem.

(c) Vizag.

It is however considered necessary that the orders are placed sufficiently in advance to provide the required load time for preparatory work."

The Plant-wise position regarding utilisation of capacity is as under :—

(i) *Foundry Forge Plant*

6.339. Production programme for 1971-72 has been drawn up in accordance with the build-up of production capacity, taking into consideration all relevant factors like productivity, pattern of orders, etc. There are, however, certain specific equipment such as machine moulding which are not being fully utilised at present in view of the pattern of orders. Adequate orders are also not available for Ingot Moulds and 2,650 tons press in Forge Shop. Efforts are being made continuously to secure orders for fuller utilisation of such section. 6,000 Ton press is to be commissioned in 1972 and efforts are being made to secure adequate orders for this press.

(ii) *Heavy Machine Building Plant*

6.340. For the year 1971-72, there is adequate load for the manufacture of mechanical and structural items. However, in regard to structurals during the period November, 1971 to March, 1972, adequate materials against existing orders would not be available. Bokaro Steel have been contacted and they would be placing orders for structurals for which they are also in a position to supply material. The production programme has been drawn up as per the build-up of production capacity taking into consideration all relevant factors like pattern of orders, present level of productivity and supply of materials, etc. However, in view of the present pattern of orders in hand, certain unique machines are not fully loaded. Adequate orders for mechanical equipment and structurals for 1972-73 are available. Firm orders on long-term basis as are necessary for plants of this nature are not available at present.

Heavy Machine Tool Plant

6.341. According to the Detailed Project Report, the utilisation of Production machines on 2 shift working is contemplated in four phases of production as given below :—

1st Phase	26%
2nd Phase	40%
3rd Phase	56%
4th Phase	73.5%

The utilisation would improve as more and more models of machine tools are put progressively in the production line and the indigenous content of production increases in accordance with the different phases contemplated in the D.P.R. However, in order to utilise the available capacity, jobbing

work for the other two plants and outside customers is being undertaken. The plant has already undertaken regular manufacture of Loco Traction Gear sets for Chittaranjan Locomotive Works and Marine Diesel Engine components for the Marine Diesel Engine Plant of M/s. G. R. W.

Order Position

6.342. The plant-wise existing orders (Customers orders only) as at the end of July, 1971 are :—

	Tonnage	Value (Rs. lakhs)
Foundry Forge Plant ..	13,932	790
Heavy Machine building Plant		
(*i*) Mechanical Equipment ..	75,549	9,849
(*ii*) Structurals	32,460	786
Total	1,08,009	10,635
Heavy Machine Tools Plant .	1,325	295

Demand Survey

6.343. The Committee enquired as to what was the machinery for conducting 'Demand Survey' by HEC so as to make sure that products would be identified well in advance so as to develop the requisite production capacity in time.

They asked whether the corporation had conducted any market survey in respect of their products and,

Whether the production programme of the Company was based on a realistic assessment of demand of products.

In a written reply the management have furnished the following information :—

"Apart from standard equipment like excavators, drilling rigs, machine tools etc. which are to our specification and standard, a Committee under the chairmanship of the Chairman of HEC has been set up to survey the requirement of and to standardise steel plant equipment to the extent feasible. This has been done in reference to the new steel plants at Hospet, Visakhapatnam and Salem and the expansion of existing steel plants.

Through superior cost feed back, better estimating to ensure commercial viability of the Corporation is being attempted. As products which give us maximum profit are identified HEC can concentrate on them, while off-loading items which can be obtained more cheaply elsewhere.

Production programme is primarily based against firm orders except for some items like Rolls, Excavator, well Drilling Rigs for which stock orders have been opened."

Customer composition and review of enquiries

6.344. An analysis of the customer composition of the undertaking for the years 1966-67 to 1968-69 shows that more than 97 per cent. of the orders emanated either from the Government Departments or the Public Undertakings. The likely non-utilisation of capacity is a pointer to the need for securing enough orders from outside parties through an effective Commercial Organisation. However, a review of the enquiry/quotation/order files of the Commercial Department of the Company for the period from August, 1967 to January, 1969 reveals the following position :—

	F.F.P.	H.M.B.P.	H.M.T.P.	Total
1. No. of enquiries received from customers	1,906	1,395	426	3,727
2. (*a*) No. of cases in which regret letters were sent	1,337	800	139	2,276
(*b*) No. of cases in which neither quotations nor regret letters were sent	69	287	Nil	356
3. No. of quotations sent to customers but were unsuccessful :				
(*a*) Sent within the specified time	62	114	248	424
(*b*) Late Quotations	313	101	Nil	414
(*c*) No. of cases in which files could not be made available	79	76	24	179
(*d*) Total (a)+(b)+(c)	454	291	272	1,027
4. No. of successful quotations ..	46	17	15	78
5. No. of cases in which no follow-up action was taken after despatch of quotations	368	205	Nil	573
6. Total of 2(a)+2(b)+3(d)— i.e. the No. of enquiries that did not result in orders	1,860	1,378	411	3,649

It will be seen that in 61 per cent cases the Company had to regret as it was not in a position to supply the products according to the requirements of customers. In about 10 per cent cases not even a regret letter was sent. Only 7 per cent of the quotations were successful and 40 per cent of the unsuccessful quotations had been sent late. Moreover, in majority of the cases where quotations were sent, no follow-up action was taken after despatch of quotations for which inadequacy of staff is stated to be one of the reasons.

In Heavy Machine Tools Plant the ratio of firm orders to enquiries was rather poor because its production was restricted to a few types of models of machine tools and it could not meet customer's specific needs and short period delivery terms.

6.345. The Committee are greatly concerned to note that the Heavy Engineering Corporation particularly the Foundry Forge Plant and Heavy Machine Building Plant are still lacking in firm orders on long term basis which alone can ensure development and production on an assured and national basis.

6.346. The Committee note that the target for production of steel in the country as well as the capacity have remained static for several years at about 9 million tonnes. It is only now that Government have taken some concrete measures to expand the capacity by 10 million tonnes by the end of the 5th Plan period and have sanctioned the setting up of new steel plants at Visakhapatnam and Hospet with a capacity of 2 million tonnage each and expansion at Bokaro to 4 million tonnes. A special steel plant of 2,50,000-5,00,000 tonnes capacity has been sanctioned for Salem.

6.347. The Committee welcome the steps taken recently by Government to standardise the machinery and equipment required for setting up new steel plants and for expansion of the existing steel plants. With the standardization of machinery and equipment, it should be possible to make use of the capacity available in the Heavy Engineering Corporation to the maximum extent in the interest of achieving self-reliance. Considering the fact that the responsibilities for steel plants as well as for Heavy Engineering Corporation are placed under the same administrative Ministry, the Committee have no doubt that Government would take necessary measures including the setting up of the Task Forces to sort out in detail, the requirements of machinery and equipment for the new steel plants and expansion of existing ones in order to place long term firm orders on Heavy Engineering Corporation.

6.348. The Committee need hardly stress that once orders are placed on Heavy Engineering Corporation, the Corporation should spare no efforts to see that machinery and equipment of guaranteed quality which would make for most efficient production are turned out and delivered according to schedule. The sale price for these machinery and equipment should become increasingly competitive with increased turnover.

6.349. The Committee would like to be informed within three months, of the action taken in pursuance of the above recommendations, as they feel that there is no time to be lost in evolving an integrated programme for creation of additional steel-making capacity and utilisation of capacity of Heavy Engineering Corporation.

R. Reorganisation of Commercial Department

6.350. The Management had informed Audit that the Commercial Department was being reorganised. The Committee enquired whether the Commercial Department had since been reorganised and whether the enquiries were now being properly attended to and quotations followed up. In a written reply it has been stated that "Commercial Department has not been reorganised so far. This will be taken up after the appointment of Chief Commercial Manager". It has been added that there was scope for improvement in regard to attendance to enquiries.

6.351. The Committee asked whether the position was reviewed regularly at sufficiently high level and at what level was each enquiry dealt with before a regret letter was sent. The Management have furnished the following information :

"This will be done more effectively after the appointment of Chief Commercial Manager.

The enquiries are dealt with at different levels before a regret letter is sent.

(i) Enquiries of individual item not in the scope of H.E.C. are regretted at the level of Sales Manager.

(ii) Enquiries which are to be regretted on account of our loading at any load centre is considered at the Director's level.

(iii) Enquiries of high value for which some development work may be involved are considered at Management level before these are regretted."

6.352. During evidence, the Managing Director, HEC explained that

"Reorganisation of the Commercial Department is currently on the orders. We are trying to reorganise the Commercial Department more towards contract engineering and customer servicing rather than merely booking of orders.....Our major commercial problem is for the components which are required to complete the items like electric motors, controls and other equipment which is beyond the scope of our manufacture and also to make sure that the contract is fulfilled within the stipulated time. It is by giving this services that we can expect to improve our image as suppliers and thus gain the confidence of the customers and improve our sales turnover as well. This reorganisation of the commercial department is in hand now."

6.353. The Committee enquired as to who attends to the complaints from customers and what was the precedure followed for dealing with complaints. They further asked any record was maintained about the action taken on the complaints from customer. In a written reply the management have stated as follows :—

"At present the respective sales sections are looking after the complaints. However, there is no acceptable procedure for dealing with the complaints and maintaining of separate records."

6.354. The Committee were further informed that

"The present organisation is very inadequate and there are proposals to reorganise and strengthen the Commercial Division. It is under the active consideration of the Management."

6.355. The Committee find that in 61 per cent cases the Company had to reject the orders during the period from August, 1967 to January, 1969 as the Corporation was not in a position to supply the products according to the requirements of the customer. In about 10 per cent cases not even a regret letter was sent. In majority of cases where quotations were sent, no follow-up action was taken after despatch of quotations. The Committee regret to note that the Commercial Division of the Corporation proved inadequate to deal with enquiries from customers. The proposal to reorganise the department has been pending for quite some time. The Committee recommend that the Commercial Department should be reorganised in such a way that HEC can discharge its responsibilities as an industrial and commercial enterprise. The best way the HEC can win and retain the confidence of the customers is through guaranteed quality of machinery and equipment, efficient sales service, adherence to the delivery schedules and readiness to respond to customers requirements promptly.

VII

COSTING, PRICING POLICY AND COST ANALYSIS

A. System of Costing

7.1. The system of costing followed is the job costing, as there is no standard product and all production is made with reference to requirements of the customer in each case. Every order for production in the shops is allotted a work order number and cost is worked out for that particular order. In Foundry Forge Plant, however, the average cost of production per M. ton of castings and forgings is worked out irrespective of the nature of these products.

7.2. The Committee found that no cost accounting manual had been prepared and cost accounting was done through periodical circulars and procedure orders. Management informed Audit (January, 1970) that cost consultant had been appointed for suggesting improvement in existing procedure and for preparation of manual. In a written reply the management have, however, furnished the following further information :

"The Cost Consultant was appointed as a whole time Cost Consultant (Accounts) in this Corporation on contract basis for a period of 3 years with effect from 1st August 1969 (Forenoon) .

In the offer of appointment issued to him, it was indicated that his functions will be to organise an efficient and workable Cost Accounting system and prepare the manuals etc. required and also train the necessary personnel to ensure continued proper functioning of the system.

Alone with the Production Consultant, he is at present engaged on the establishment of Time recording and time booking, which have been recently introduced. The Cost Accounting Manual has been incorporated in the Accounting Manual."*

7.3. The Committee understand that no reconciliation between the cost accounts and the financial, accounts was made till 1967-68. For 1968-69 reconciliation statements were prepared by the three plants in different forms. The Management informed Audit (January, 1970) that the Accounting manual to be prepared by the firm of Chartered Accountants appointed for the purpose will incorporate the procedure for reconciliation between the cost accounts and financial accounts. The Committee have now been informed that "the Accounting Manual has since been prepared. Reconciliation of the Financial Accounts with Cost Accounts was made in 1969-70 and also 1970-71".

7.4. The Committee find that no detailed cost estimates were being prepared before undertaking the jobs. It was, therefore, not possible to exercise effective control on costs. The system of preparing estimates has, however, been introduced recently and a small unit has been set up to function as Costing and Estimating Bureau. A Cost Consultant and a Production Consultant have also been appointed to deal with these questions in more

*According to local verification done by Audit on Cost Accounting Manual has been prepared so far and in the preface to the Accounting Manual on HMBP it is stated that a suitable costing system is being drafted in consultation with the cost consultants.

detail. As the cost estimates were not prepared and the closing of a work order took a long time, the Management had no means of knowing the trend of cost in the absence of periodical review of costs. The Committee enquired whether the estimates of cost were now being prepared and the actual cost there against was being reviewed regularly. It has been stated that "estimates are prepared on the basis of budgeted overheads and revised when necessary".

7.5. The Committee pointed out that fixed and variable expenses were not recorded separately. Therefore, it was not possible to determine whether any sales were made below the marginal cost. It was only on 27th September, 1969 that an order was issued that fixed and variable overheads should be booked separately. The Committee have been informed that "fixed and variable overheads are now being booked separately in the Cost Accounts."

7.6. The Committee understand that while in the Detailed Project Report for Foundry Forge Plant norms for the consumption of raw materials have been laid down, no such indication has been given in the Detailed Project Report for Heavy Machine Building Plant. The technological documentations procured from the Czechoslovakian Collaborators indicate the norms for consumption of raw materials, and the labour hours required so far as Heavy Machine Tools Plant is concerned. However, the norms for labour as indicated in these documentations are revised by the Production Planning Department as considered necessary. In respect of labour element the Detailed Project Reports for the Foundry Forge Plant and the Heavy Machine Building Plant indicate the labour force required. No job analysis has been made to fix the norm for labour requirements. The Management informed Audit (January, 1970) that in some cases the standards may require revision in the light of practical experience and it will take some more time to develop the norm under Indian conditions. The Committee have now been informed that

(i) Sectionalisation and Broad Job analysis for production departments has been completed.

(ii) Sectionalisation and Broad Job analysis of all other indirect groups including office groups has been initiated and is programmed for completion in November, 1971.

7.7. The Committee find that due to allotment of a single work order number for the production of a number of items of the same nature, requiring a long period of production extending up to several months, the actual cost of production was not known till the entire work was completed.

7.8. The Committee further note that for the purpose of preparing cost statements the direct and indirect materials were valued upto 1968-69 at prices prevailing in 1965 or in earlier years, in the Foundry Forge Plant. As a result, the prices adopted differed widely from the issue rates as per priced stores ledgers. Management stated (January, 1970) that issue rates of materials were revised on the basis of current prices during first quarter of 1969-70. The Committee enquired as to why these rates were not revised earlier. In a written reply it has been stated that:

"The issue rates of all materials are fixed every month. These were fixed and revised even earlier to the 1st Quarter of 1969-70. The rates of only liquid metal which would cover cost of melting also, were revised during the 1st quarter 1969-70. These could not be revised earlier due to want of trained estimates and Cost Accountants."

7.9. The Committee find that in the Foundry Forge Plant the cost of molten metal was not worked out on the basis of actuals. Instead, molten metal was priced at predetermined estimated rates, the material costs and the rates per tonne of molten metal being worked out by the Costing Department on the basis of the technical data provided by the Production Department. The matter regarding the ascertainment of actual cost was stated to be separately under examination. The Ministry informed Audit (July, 1970) that steps have been taken and are being taken to improve the system.

7.10. The Committee pointed out that the system in vogue for the ascertainment of cost of production and for exercising control thereon was neither effective nor scientific. They enquired as to why it had taken so long to introduce a proper and effective system of costing when the production started in 1964-65. In a written reply the Management have stated as under :—

"Basic procedures for the various aspects of cost accounting have already been laid down in the case of all the plants. So for HMBP is concerned, the same have also been incorporated in the Accounts Manual which has been extended to the other two plants also.* However, difficulties are being experienced in obtaining accurate basic date from shop floor relating to various elements of cost i.e. material, labour and machines booking etc. To meet the situation integrated system of time keeping with the help of time recording clocks has been introduced and the system is expected to be extended to job bookings also. With similar improvements in the material control aspects also, it is expected that the position regarding cost ascertainment and cost control will improve. As such we have got the basic costing system and procedure in force already. However, improvements as regards the collection of data and the reporting system are required to be made, and the same is receiving attention. With installation of the computer which is expected to be in position by the middle of next year the facility of data proceeding is also expected to be improved further."

7.11. During evidence of the representatives of Heavy Engineering Corporation Ltd., (1) the Committee were informed that "the procedure introduced are scientific but not effective".

The witness added that "For costing, the main ingredients are labour, materials and overheads. Overheads which form a large proportion are reckoned as percentage on labour. Now, we have introduced all the procedures. The procedure orders are there. And since the receipt of the Audit Report, which was most helpful in this respect, we have had the cost sheets on the machines, on the unit recorders. And we get very nice cost sheets giving the costing up to date for each work order. When I say that it is not effective, it is because of the labour element."

He added that :

"It is only after the time booking by clocks becomes effective, the labour and consequently, the overheads on it will also be accurate.

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*According to local verification done by Audit the Accounts Manual of HMBP relating to costing is not being followed by FFP and HMTP which are followed the procedure laid down earlier. In FFP a Committee was formed on 1-1-72 draft the costing manual of that Plant. The Committee was expected to complete the work by June, 1972. In this connection the attention is also invited to remarks on page 242.

Again, so far as the materials are concerned, the results we get are a little more accurate. But there also there is considerable scope for improvement in shopdiscipline. If you permit, Sir, I will read out the latest report of our Company auditors. They say that, "During the course of our Audit, we have noticed considerable improvement in several directions, and in particular, in the systems and procedure of maintenance of accounts and clearance of old outstanding balance. Deficiencies, however, persist in other respects. And from our examination we are of the opinion that in order to bring about necessary improvement in the working of the accounts, it is desirable to introduce a system of shop-floor discipline, correct recording of the basic data at that level and a regular flow of documents from the shops to the Accounts Department."

The witness further stated that :

"The very first and fundamental step—the shop discipline—has been taken and I am glad to say that it has been successful. That is the introduction of time clocks and time booking which is in the process. Likewise, sectionalisation and other disciplinary actions on the shop-floor were in progress. I am very hopeful that the systems are there and with these two ingredients becoming more accurate, our costing should be what costing has to be."

7.12. The Committee find that the costing system followed by the Corporation suffered from various deficiencies. They find that no cost accounting manual had been prepared and cost accounting was done through periodical circulars and procedure orders. No detailed cost estimates were being prepared before undertaking the job and it was, therefore, not possible to exercise effective control on costs. Fixed and variable expenses were not recorded separately. It was, therefore, not possible to determine whether any sales were made below the marginal cost. No job analysis had been made to fix the norms for labour requirement. In these circumstances, the Committee feel that the system of cost accounting and cost control as prevailing during the last 8 years or so was neither scientific nor effective.

7.13. The Committee have been informed that Cost Consultant has since been appointed and comprehensive accounting manual has been prepared. The Committee, however, understand that no accounting manual has been prepared so far. In the preface to the accounting manual on HMBP, it is stated that a suitable costing system is being drafted in consultation with the Cost Consultants. The Committee have also been informed by the management that the basic procedures for the various aspects and cost accounting have already been laid down in the case of all the plants. In the case of HMBP these have been incorporated in the accounts manual which has been extended to the other two plants also. The Committee, however, understand that the accounts manual of HMBP relating to costing is not being followed by FFP and HMTP which are following the procedure laid down earlier. The Committee also understand that in the Foundry Forge Plant, a Committee was formed on 1-1-1972 to draft the costing manual of that plant and the work is expected to be completed by June 1972. The Committee recommend that comprehensive accounting manual including the cost accounting should be prepared without any loss of time, so that the different shops may follow the correct and scientific procedures for costing. The Committee also hope that steps will be taken

to effect improvements in regard to collection of data and intoduce effective reporting systems. The Committee also hope that the time booking by clocks would very soon become effective so that the labour and consequently the overheads on it become accurate. 'Introduction of a system of shop-floor discipline, correct recording of basic data at that level and a regular flow of documents from these shops to the Accounts Department are some of the steps, suggested by Audit. The Committee hope that with the effective implementation of these measures the costing of the Corporation will be come what costing ought to be.

B. Pricing Policy and Analysis of Costs

7.14. The pricing policy for the products of Heavy Machine Building Plant and Foundry Forge Plant was approved by the Board of Directors in its meetings held on 9th July, 1965 and 16th February, 1966 respectively. Later on, the same policy was made applicable to the products of Heavy Machine Tools Plant also. The pricing policy has not been reviewed so far.

7.15. According to the pricing policy the products of the Company were classified into two categories :—

Category—I consisting of items like structurals, cranes, iron castings, steel castings, forgings, etc., i.e., items produced by other manufacturers in India also.

Category—II consisting of items like machinery, equipment and spares exclusively manufactured by the Company by utilising imported components, raw materials, etc.

7.16. The Board decided that the selling price should be fixed at rates which the market could bear, i.e., the ruling market price in respect of category—I and "landed cost" in respect of category—II. It was also decided that variable cost and depreciation of plant, machinery and buildings, etc. should be fully recovered except in exceptional circumstances where orders had to be accepted on experimental basis and the value of each order was less than Rs. 10 lakhs. Further, as the Government of India allow preference in price to the extent of about 20 per cent for indigenous manufacturers, attempt should also be made to secure orders at prices above the landed cost to the extent possible.

7.17. In the case of orders accepted and executed by the Heavy Machine Building Plant, mostly the rates were not fixed before starting production. The Management have stated (February, 1970) that the above position relates to the past when orders were accepted even at prices which were lower than the cost of production in order to load the shops and to build up necessary skills. At present the major portion of production is for Bokaro Steel Limited for which the prices have been fixed by the Government.

7.18. Even in cases where rates were fixed, it was not possible to ascertain the variable and other costs as required under the pricing policy.

7.19. The Ministry have stated (July, 1970) that the pricing policy has since been laid down by Government vide Ministry of Finance, Bureau of Public Enterprises O.M. No. BPE/46/ADV·F/68/25, dated the 27th December, 1968.

Analysis of Costs

7.20. The statement given below indicates the cost of different types of equipment manufactured by the Company alongwith their comparison with the cost envisaged in the Project Reports.

(i) Foundry Forge Plant

Name of the Project	As per DPR unmachined unheat-reated & unfettled	As per DPR fettled heat-reated but unmachined	Landed cost derived from DPR (Post Devaluation crores).	Cost of product (Fettled, heat-reated but unmachined)		
				68-69	69-70	70-71
G. I. Castings ..	742	861·8	2232	3817	4969	
G.I. Rolls ..	630	630·0	1631	4471	5950	3674
Steel Castings ..	985	1286·8	3331	4819	7530	5873
Forgings ..	1460	1670·0	4325	5571	4784	5970

(ii) Heavy Machine Building Plant

	As per C.P.R. Rs./tons.	Equivalent landed cost post devaluation	Actual		
			68-69 Rs./MT	69-70 Rs./MT.	70-71 Rs./MT
Blast Furnace equipment ..	3780	7928	9275	9182	10109
Coke Oven Equipment	3020	6342	7831	9386	9881
Crane	3560	7476	8683	7984	8889
Oil Drilling Rig	4260	8946	18568	17285	14510
Well Drilling Rig	—	—	21373	20479	19096
Excavators	3680	7728	28804	22357	15983
Crushing & Grinding Equipment	4210	8841	26323	24070	18619
Rolling Mill Equipment ..	4050	8505	19588	19066	15629
Structurals	—	—	3844	4063	3573

(iii) Heavy Machine Tools Plant

Name of the Products	Landed cost as per DPR (pre-devaluation.)	Landed cost post-devaluation.	Rs. in lakhs/Machine. Actual		
			68-69	69-70	70-71
Radial Drilling M/c. DR-8 ..	0·47	0·74	0·06	1·01	1·46
Do DR-10 ..	0.85	1.34	1.33	1.49	1.40
Double Column Plg. Machine					
PD-16	2.65	4.17	5.51	5.16	7.05
Do PD-20	3.25	5.12	7·08	—	—
Centro Lathe LC-100	1·76	2·77	—	3·07	3·31
Do. LC-125 ..	1·87	2·95	—	3·00	3·79
Hor. Boring M/c. BH-100 ..	1·27	2·00	—	2·31	2·37
Roll Grinding M/c GR-58 ..	—	—	—	5·92	—
Do. GR-100 ..	—	—	—	9·84	—
Vertical Boring M/c. BV-12 ..	1·67	2·63	—	—	3·23
Do. BV-25 ..	4·79	7·54	—	—	10·80
Edge Plg. M/c. PE-12	1·81	2·85	—	—	4·20
Hor. Boring M/c. BH-130 ..	1·99	3·13	—	—	6·70

7.21. The actual cost of production is considerably in excess of the estimate in DPR. The Management have furnished the following reasons for the actual cost of production being higher than the DPR estimates :—

(i) Low productivity.

(ii) High Raw Material Costs.

(iii) DPR figures do not include certain items of capital expenditure like Township, on foreign experts, training expenditure etc.

(iv) A large number of development items had been taken up initially. The cost of production in F.F.P. during 1970-71 has shown downward trend with the increase in production.

(v) Wage rise without commensurate rise in productivity.

7.22. A detailed analysis of the cost of production of main products of Foundry Forge Plant and Heavy Machine Building Plant in respect of the years 1967-68 and 1968-69 is given in Appendix V.

7.23. An analysis of the cost of production of main products of Foundry Forge Plant and their selling prices in respect of the years 1969-70 and 1970-71 is given below :—

Foundry Forge Plant

Sl. No.	Products	Total cost per M/Ton 69-70	Average selling price 69-70	Total cost per M/Ton 70-71	Average selling price 70-71
		Rs.	Rs.	Rs.	Rs.
1.	G I. Casting	4,969	3,785	4,720	4,325
2.	Ingot Moulds	—	—	1,334	1,100
3.	G. I. Rolls	5,950	4,000	—	—
4.	Al. Casting	24,157	20,707	23,745	12,900
5.	Cu. base Casting	40,206	20,707	29,470	21,900
6.	Steel Casting & Steel Rolls ..	7,530	3,940	5,920	4,700
7.	Forgings	4,784	4,050	5,970	5,100

Heavy Machine Building Plant

	1969-70 Cost per M/T	1970-71 Cost per M/T	Sale price M/ton.
1	2	3	4
	Rs.	Rs.	Rs.
(i) Coke-oven Eqpt.			
B.S.P. ..	9,965	10,669	6,273
B.S.L. ..	18,917	15,809	13,700
(ii) B. F. Equipment			
B.S.L.	10,127	11,984	13,700
B.S.P.	8,950	9,233	6,273
(iii) Rolling Mills Equipment			
B.S.L.	16,019	14,655	13,700
Ishapur	21,459	19,020	10,000
(iv) Crushing Grinding			
B.S.P.	—	11,877	6,273
B.S.L.	17,668	14,604	13,700

1	2	3	4
(v) *Excavators NCDC*	22,357	12,946	11,713
B.S.D.	17,668	19,549	12,338
(vi) Oil Drilling Rigs ..	17,285	14,510	9,611
(vii) Cranes B.S.P.	—	17,817	6,273
(viii) B. F. Structurals B.S.L. ..	5,014	4,452	2,378
(ix) Component for Cement Factory ..	—	19,186	6,066
(x) Well Drilling Rigs Model No. Up-200 ..	—	19,096	22,222
Well Drilling Rigs Model No. URB-3 AM	—	32,538	21,262
Do. DR-15	—	66,644	18,927

NOTE : The above cost per tonne is the average based on Rolling up to 31-3-70/31-3-71 and the final cost will be available when the supplies are completed.

7.24. It will be seen from the above table that excepting two items in the Heavy Machine Building in all other cases, the cost of production exceeded the selling price. The table given in the Appendix reveals that excepting 3 items in Foundry Forge Plant and 3 items in Heavy Machine Building Plant, in all other cases, the costs of production exceeded the selling prices. Further, while the selling prices in respect of 14 items (Foundry Forge Plant 4 items and Heavy Machine Building Plant 10 items) did not cover shop costs, in 5 items (all in Heavy Machine Building Plant) the selling prices did not cover even the direct material costs. The Management have stated (January, 1970) as follows :—

"The Plants are still in the initial stages of production and the output of the plants is only a part of the capacity utilised. Therefore, a limited quantum of production has to absorb a fairly heavy amount of fixed charges by way of depreciation, interest charges, salaries and wages, etc. In cases mentioned by the Audit where selling prices do not cover the cost of material as for example Oil Drilling Rigs, Excavators, components for cement Machinery, the work is still in process and the final figures will only be known on completion of the work. In the case of C.I.F. plates, the castings for these were obtained from the Foundry Forge Plant. The lower rate per tonne was accepted with the specific intention to get the shop fully loaded."

7.25. The Committee enquired whether the Ministry also agreed with the Management's explanation for accepting jobs at prices which do not cover even the cost of direct materials just for the purpose of loading the shops. In a written reply the Ministry have stated as under :—

"*Prima-facie* it is not desirable that an order should be accepted at a cost which does not even cover the cost of materials. However, a decision on this issue has to be taken after consideration of a totality of factors, including the loading of shops, the nature of the order, the possibility of getting repeat orders the cost of idle labour and its effect on the morale, and the profitability of other orders with the company."

7.26. As regards the analysis of cost of oil drilling rigs, excavators, components for cement machinery the Management have furnished the following latest information :—

"The work is still in progress. However analysis of cost of the items under reference upto 31-3-71 is given below. From the trend of expen-

diture booked upto 31-3-1971, it will be seen that the cost of material as also a portion of machining charges and overheads are covered by the selling prices.

(Cost/MT. in Rupees)

Sl. No.	Product	General Total selling							
		D.M.	D.L.	M/cg. charge	Shop OH	Total upto shop level	Over-head	Cost	Price M.T.
1.	Oil Drilling Rigs	7,954	224	216	554	8,948	5,562	14,510	9,611
2.	Excavators								
	C.D.C.	9,486	294	789	1,210	11,779	3,167	14,946	11,109
	B.S.L.	8,396	288	361	750	9,795	9,754	19,549	11,109
3.	Components for Cement M/c.	4,858	91	2,247	2,545	9,741	9,579	19,320	5,938

These items are of monopolistic category. Prices are now being fixed taking into consideration estimates of cost of production. Similar position is not likely to occur in the fresh orders accepted for Excavators. Orders for oil drilling rigs have not materialized as yet."

7.27. In making the cost analysis overhead expenditure as applied to various jobs has only been taken into consideration. The actual expenditure was, however, much in excess of the over-head expenditure actually applied. According to an analysis made in the FFP for example, in the year 1968-69, the total overhead expenditure amounted to Rs. 7.06 crores. Overhead expenditure actually applied to jobs executed by the Plant was, however, Rs. 1.54 crores leaving an unabsorbed overhead expenditure of Rs. 5.52 crores. In the comparison of cost with the selling price such unabsorbed overhead expenditure has not been taken into consideration. Similar analysis in respect of the other Plants has not been attempted.

7.28. The Committee enquired whether the analysis of overhead expenditure in respect of Heavy Machine Building Plant and Heavy Machine Tools Plant has since been made and why it was not made earlier. The Management have stated that :

"The quantum of the overhead expenses which are not being absorbed on the jobs executed by the plant is now ascertained in the case of all the plants. Similar exercise in the case of HMBP was done in the past years also."

Value of Production

7.29. An analysis of the overall position reveals that the value of production in respect of the three plants upto 31-3-1969 works out to Rs. 37.73 crores. The value of raw materials and components consumed in turning out the above production, and the total salaries and wages paid taken together comes to Rs. 38.10 crores. It would thus appear that the sale price did not cover even the cost of raw materials and salaries and wages paid. It is no doubt true that the salaries and wages paid include elements of overhead expenditure and cannot be treated as variable expenditure in its

entirety. But, the extent of overhead expenditure other than that included in the salaries and wages in one year alone (1968-69) amounting to Rs. 12.66 crores in the shape of depreciation, loose tools written off, power and fuel and maintenance etc. (excluding interest of Rs. 5.26 crores) has also to be recovered.

7.30. The value of production (Rs. 37.73 crores) as mentioned above includes the jobs undertaken by the three plants for themselves/sister plants to the extent of Rs. 12.54 crores which have been valued at cost/mutually agreed rates without any relation to market price (except in the case of structurals manufactured by the Heavy Machine Building Plant for use in the Foundry Forge Plant which are valued at market price, thus recovering notionally all/major portion of the overhead expenditure.

7.31. Value of finished products manufactured for sales by the Plants of HEC amounted to Rs. 15.37 crores during 1969-70 and Rs. 22.61 crores during 1970-71.

7.32. The Committee enquired as to what was the total loss sustained by the Corporation on account of fixing the sale price of certain goods lower than their cost of production. In a written reply it has been stated that :

> "The total loss sustained by H.M.B.P., F.F.P. and H.M.T.P. upto 31-3-1971 by selling its products at sale prices lower than the cost of production works out as HMBP Rs. 2782 lakhs, F.F.P. Rs. 3785 lakhs and H.M.T.P. Rs. 681 lakhs." (Total Rs. 72.48 crores).

7.33. In para 77 of their 14th Report on Heavy Engineering Corporation Ltd., the Committee on Public Undertakings observed that :

> "In the case of certain items, the selling price does not cover even all the direct charges in respect of items such as raw materials, salaries and wages, and power and fuel not to speak of indirect charges like depreciation, interest, other over-heads, etc. This is a serious matter and calls for urgent action on the part of the Corporation to examine the reasons for such high cost of production."

7.34. The Committee therefore recommended that :

> "Concerted efforts should be made by the management to reduce the cost of production, through improved productivity and reduction in inventories, wastages of materials and better utilisation of men and machinery."

7.35. The Committee enquired as to what steps had been taken to reduce the cost of production in the light of the above recommendation and what results had been achieved during the years 1967-68 to 1970-71. They also asked as to whether the cost of production of all the important items covered all the direct and indirect charges such as raw materials, salaries, wages, power and fuel, depreciation and over heads and if not, what were the reasons therefor. In reply it has been stated that :

> "The reduction in cost of production is directly linked up with the increase in production in the Plants. Efforts are being made to increase the production, with experience gained more realistic estimates of cost of production are being made for the purpose of quotation. And in these estimates all the charges direct, indirect, raw material,

salaries, power and fuel, depreciation and overheads are being covered."

Some specific orders executed at a price below the cost of production are discussed below :—

(i) *Oil Drilling Rigs*

7.36. The Oil and Natural Gas Commission requested the Company on 4th April, 1966 to submit quotation for the supply of 3D. Oil Drilling/Rigs. On 21st April, 1966 the Company submitted a quotation of Rs. 29.79 lakhs per rig which was revised on 6th September, 1966 to Rs. 38.81 lakhs per rig based on landed cost. Ultimately, on 26th October, 1967 an agreement was entered into for the supply of 3 rigs weighing 1,041.069 M. tons at a cost of Rs. 101.09 lakhs F.O.R. Sibsagar, to be delivered by 1967.

7.37. In regard to the fixation of the above price the management informed the Committee as under :—

> "Our price quoted to ONGC was based on landed cost of imported equipment though a major portion of the structurals was manufactured indigenously and would be costing less compared to the imported equipments. However, the price included in the contract was mutually agreed after prolonged discussions. The prices mentioned in the contract was the landed cost of imported rigs which ONGC was importing from USSR and ONGC would not agree to pay more than what they have to pay for the completely imported rigs."

7.38. In May, 1966, a contract was entered into with M/s. Prommash-export of U.S.S.R. for the supply of 579.438 M. tons of completing eqiupment valued at Rs. 41.67 lakhs C.I.F. Calcutta against which a sum of Rs. 25.72 lakhs (including Rs. 3.36 lakhs as interest on deferred payments) has been paid so far. The balance amount with interest thereon is payable in instalments.

7.39. Up to 13th May, 1969, only a quantity of 830.753 M. tons of equipment had been supplied by the Company against the total quantity of 1,041.069 M. tons required to be supplied by the end of 1967. As none of the 3 rigs has been completely supplied, the Oil and Natural Gas Commission has refused to make the payment of an amount of Rs. 34.99 lakhs as shown below :—

Value of total supplies	.. ..	Rs. 79,84,347
Less : Payment already received	..	Rs. 44,85,031
Outstanding amount	.. ..	Rs. 34,99,316

7.40. Thus, due to delay in supply and defective planning none of the rigs could be supplied fully and a sum of Rs. 34.99 lakhs remains blocked up resulting in a loss of interest amounting to Rs. 20,413 per month.

7.41. The Committee have been informed that as per the contract, the terms of payment are as given below :—

> *"90% within a week* after receipt of documents, Balance 10% within 30 days of receipt of stores. ONGC has made payment for about 70% of the total cost. The balance payment will be made only after the supplies are completed."

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* as per local verification by Audit it should be as under :—
90% within 10 days of the receipt of telegram to be issued by the HEC after despatch of goods. Balance 10% within 30 days from the receipt of stores.

7.42. The Committee enquired whether the rigs had been completely manufactured. They asked as to how the Corporation agreed to supply these rigs by 1967 when it had not been able to manufacture these uptil now. In a written reply the management have stated as under :—

"All the rigs have not been supplied completely. Most of the despatches for these rigs have been effected in 1968. However, ONGC has reported certain short receipts in 1970 and these are being supplied now.

7.43. As on 31-3-1969 the cost of production of the 3 rigs amounted to Rs. 159.22 lakhs as detailed below :—

(*i*) Material Cost	Rs. 90,91,508
(*ii*) Conversion cost	Rs. 8,01,689
(*iii*) Administrative overheads	Rs. 60,28,910
	Rs. 1,59,22,107

7.44. A loss of Rs. 58.13 lakhs has already been incurred as compared with the total amount payable by the Oil and Natural Gas Commission under the agreement.

(ii) *Slag Ladle Cars*

7.45. The Board of Directors of the Company in its meeting held on 27-2-1965 approved the manufacture of standard steel plant equipment and import of components therefor. Accordingly, components for 25 nos. slag ladle cars weighing 1,700 M. tons valued at Rs. 64.90 lakhs C.I.F. Calcutta, were imported. Orders for 25 slag ladle cars were obtained from the Bhilai Steel Plant (14 nos, as part of the 6th Blast Furnace Contract and 11 nos. as part of another contract for maintenance equipment). 25 slag ladle cars have been supplied. The cost of production of the slag ladle cars amounted to Rs. 131.55 lakhs as detailed below :—

W. O. No.	Qty. (No.)	Cost (Rs.)		Rs.
16005	8	62,67,234	Material	1,03,71,539
16008	10	31,02,423	Conversion cost including Admn.	
16009	7	37,85,621	overheads.	27,83,739
		Total cost of 25 nos.		1,31,55,278

(The cost of production of individual work orders had not been correctly recorded and hence the collective cost of 25 cars has been taken).

7.46. The sale realisation of the 25 cars amounted to Rs. 113.19 lakhs (Rs. 71.39 lakhs for 14 cars and Rs. 41.80 lakhs for 11 cars), thus resulting in a loss of Rs. 18.36 lakhs.

7.47. In accordance with the Company's pricing policy, a price of Rs. 4,38,617 per car was quoted to the Bhilai Steel Plant in respect of 11 nos. slag ladle cars, but was subsequently reduced to Rs. 3.80 lakhs per car.

7.48. The Committee enquired as to what were the reasons for reducing the price. In a written reply the Management have stated as under :—

> "The prices for the Slag Ladle Cars order had been settled during negotiations as Bhilai Steel Plant were producing the figures from their Books in respect of cost prices of Slag Ladle Cars imported by them from Russia earlier, which were lower. The negotiations were carried out by the then FA & CAO, HEC. The Bhilai Contract has been held up as the price is still undernegotiations.

7.49. During evidence the witness explained that "In the course of discussions and negotiations in which the Finance Officer was also present, the price was reduced.

There must have been good reasons; these have not been recorded. Normally one does not go and reduce the price when the other party is also a public undertaking. There must have been good reasons, but we are unable to find out the exact reasons, why it was done.

7.50. The Ministry informed Audit (July, 1970) that so far as supplies to the Bhilai Steel Plant for the 6th Blast Furnace Complex are concerned, the question of revision of prices is separately under examination. In a written reply the management have stated that:

> "The prices have since been revised. In 1969, we received orders at Rs. 6.93 lakhs each."

7.51. During evidence the Committee asked as to what was the justification for increase in the price. The witness stated that "prices have gone up. Original prices must have been some distressed prices".

(iii) *Cold Blast Valves*

7.52. On 7-9-1965, an offer for placing orders for the 6th Blash Furnace Equipment was received from the Bhilai Steel Plant. Although no firm orders were received, the manufacture of 6 cold blast valves (a part of the Blast Furnace Equipment) was taken up by the Company in January, 1968 and components weighing 27.8 M. tons valued at Rs. 1.06 lakhs (c.i.f. Calcutta) were also imported. The cost of production of these valves up to March, 1969 amounted to Rs. 5.85 lakhs as per details below :—

	Direct material	Direct labour	Prime cost	Shop over-heads	Total shop	General over-heads	Total cost
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs
Total Cost for Valves	1,78,084	35,191	2,13,275	2,10,208	4,23,483	1,61,561	5,85,044
Cost per Valve	29,681	5,865	35,546	35,035	70,581	26,927	97,508

7.53. An order for the supply of 5 valves @ Rs. 39,405 each (price subject to confirmation) was placed by the Bhilai Steel Plant later on against which 4 valves were supplied during March, 1968—March, 1969. The selling price covers only the prime cost and a part of shop overheads. The order for

five valves has already resulted in a loss of Rs. 2.91 lakhs up to March, 1969. 5th valve has also been supplied to BSP. No order for the 6th valve has been received so far.

7.54. The Ministry informed Audit (July, 1970) the question of revision of price is separately under examination. In a writen reply the Committee have informed that "the price for valves supplied to B.S.P. is under negotiation."

(iv) *Water well drilling rigs*

7.55. The Company undertook the manufacture of 10 nos. water well drilling rigs and imported therefore componed worth Rs. 14.48 lakhs c.i.f. Calcutta, from U.S.S.R. on deferred payment basis against an agreement dated 17-5-1966.

7.56. The cost of production of these rigs amounted to Rs. 6.27 lakhs each but these were sold at a price of Rs. 4.47 lakhs each, thus resulting in a loss of Rs. 17.96 lakhs.

7.57. It has been stated by the Company that the price of Rs. 4.47 lakhs was fixed by the Ministry of Food and Agriculture in July, 1967 and "in fact, our management was prepared to agree to a price of Rs. 4 lakhs each taking into account the landed cost etc."

7.58. The Ministry have stated July 1970 as follows :—

> "In the initial stages of production, there may be cases where the selling price is below the cost of production as the selling price is normally based on the landed cost of similar equipment."

7.59. The Committee find that the actual cost of production in all the plants of HEC was considerably in excess of the estimates given in the DPR. In the case of several items, the actual cost of production is more than 100% of the landed cost derived from DPR (Post devaluation) estimates. Low productivity, high cost of materials and wage rise without commensurate rise in productivity are given as some of the reasons which have resulted in the high cost of production. The Committee further note that except in the case of a few items, the cost of production in the case of major items of production exceeded even the sale price. The cost price in the case of several items was more than 100% of the sale price. It is significant to note that in the case of well Drilling Rigs type DR-15, the cost of production was even more than 250% of the sale price. What surprises the Committee most is that the Corporation accepted jobs at prices which did not cover even the cost of direct materials. This it has been stated was done with the intention of getting the shops fully loaded. The Committee further note that, in making the cost analysis, overhead expenditure as applied to various jobs had only been taken into consideration leaving substantial portion of overheads unabsorbed. The actual expenditure was much in excess of the overhead actually applied. Such unabsorbed expenditure has not been taken into consideration in comparison of cost with selling prices. The Committee find from the review of some of the cases like oil drilling rigs, slag ladle cars, cold blast valves, water well drilling rigs that the Corporation incurred a substantial loss as a result of quoting prices much below the cost of production. Total loss sustained by the Corporation by selling its products at sale prices lower than the cost of production, upto the 31st March, 1971, works out to be Rs. 72.48 crores.

7.60. According to the Pricing Policy of Government, selling price had to be fixed at rates which the market could bear or the landed cost. This clearly indicates that in case the Corporation has to be a viable unit it must reduce substantially its cost of production. The Committee on Public Undertakings (4th Lok Sabha) in their 14th Report on Heavy Engineering Corporation had recommended that "Concerted efforts should be made by the management to reduce the cost of production through improved productivity and reduction of inventories, wastages of materials and better utilisation of men and machinery." The Committee, deplore that nothing substantial has been achieved by the Corporation in this direction.

7.61. The Committee stress that there is need for sustained efforts and constant vigilance to ensure increased production through better utilisation of men and machinery. This would help the Corporation in reducing the overheads and thereby reduce the cost of production.

VIII

MATERIAL MANAGEMENT AND INVENTORY CONTROL

A. Material Procurement

(i) *Purchase Manual*

8.1. Prior to July, 1969 each of the three plants of the Company was having its own independent purchasing unit, in addition to the two central purchasing units. All these units were brought under the control of Chief Controller of Stores and Purchases in July, 1969.

8.2. The Company has not prepared its own Purchase Manual so far. It has been stated that in respect of purchases to be made, the Purchase Department is guided by a booklet called "Procedure for the Stores Department" and instructions issued from time to time and also the procedure recommended by the Collaborators for different plants. The booklet, however, contains guidelines mainly for the Stores Department.

8.3. The Management informed Audit in January, 1970 as follows :—

"A thorough study has to be made to standardise the system for stores and purchase suitable to all the units. The Stores and Purchase Departments have been centralised recently. A complete study will be taken up in due course duly taking into cognizance the guidelines as proposed to be laid down by the Bureau of Public Enterprises for all the Undertakings of the country. The preparation of such a manual for stores and purchase common for all the plants will take time."

8.4. The Committee enquired whether the Ministry were satisfied with the explanation given by the Corporation for not preparing its own purchase procedure for such a long time even after its going into production in 1964-65, and whether this state of affairs was satisfactory.

In a written reply the Ministry have stated as under :—

"The position is not satisfactory. Heavy Engineering Corporation have undertaken a thorough study of the existing procedures to standardise the system for stores and purchases. Based on this study, Stores manual and Purchase manual are being compiled. Nearly 40% of the work has been done and it is expected that all the chapters will be completed and the manual will be ready for publication in a few months. The guidelines for management in public enterprises, issued by the Bureau of Public Enterprises are being kept in view while compilling the manual."

During evidence the Chairman, HEC stated that "it would take about 6 to 9 months' time to have our own manual."

List of Suppliers

8.5. The company has not prepared its own list of suppliers and generally follow the lists available with the Director General, Supplies and Disposals and the Director General, Technical Development. When open tenders

are not invited, the firms whose performance has been found satisfactory in the past, are generally approached for obtaining supplies.

8.6. The Management informed Audit in January, 1970 as follows :—

"The work of preparation of Lists of approved suppliers for Heavy Engineering Corporation as a whole is underway."

8.7. In this connection the Ministry have informed the Committee that

"The draft list of approved suppliers for Heavy Engineering Corporation Limited has been prepared centrally. After going through the formalities of advertising, calling upon the firms to register themselves as suppliers, after completing the question of their suitability, etc. It is expected that the list may be ready for publication soon after it is approved by the management."

(iii) *Maximum, Minimum Ordering Levels*

8.8. Excepting for 1500 items of stores (which is a small portion of the total items), maximum, minimum and ordering levels have not been fixed so far. There is also no system in vogue by which the items of stores procured for specific work orders can be located in a consolidated manner. As a result when the work orders are cancelled, it is not possible to ascertain the quantity and the value of stores procured therefor which consequently become surplus to requirements.

8.9. During evidence the Committee enquired whether there were no instances where the work of the Corporation suffered due to placement of late orders for raw material on account of the defective method of keeping inventories. The Chairman, HEC stated as follows :—

"In fact it was a serious position but between the last one and one and half years, we have improved upon it. Some regularly consumed items were not made stock items; we are taking steps to make all the regularly used items as stock items."

8.10. The Committee asked whether the Corporation was listing out properly the stores purchased which were not utilised. The Chairman, Heavy Engineering Corporation while indicating that they are on the job, explained in written reply as under :

"In the Foundry Forge Plant where the Major raw materials required for production are of a repetitive nature, the maximum and minimum limits have been fixed and the recoupment of such items is made under Automatic Replenishment System.

In Heavy Machine Building Project, which is mainly a jobbing industry, the items required for production are of a non-repetitive nature as the products to be manufactured are dissimilar. This also applies to Heavy Machine Tools Project. However, for items of general consumable stores required for normal maintenance maximum and minimum limits have been fixed for items where the requirements are sizeable.

The number of items for which limits have been fixed as on date is 7,112. Action is being taken to explore the possibility of converting more items as "stock" items and for fixing the limits for them."

8.11. In respect of the cancelled work orders the list of stores procured for these work orders had not been prepared for a long time and consequently the action for their alternative use or disposal had not been taken. Till July, 1970 the Management had prepared the lists of stores procured for 55 work orders out of 498 cancelled work orders and the lists in respect of the remaining work orders were stated to be under preparation.

In this regard the management have stated that—

"A list of 417 cancelled work orders had been prepared. A thorough examination of this list was made and it was found that no procurement action was taken against 356 work orders, for which no Bills of Materials were issued to the Purchase Department. For 16 Work orders, although procurement action was taken and stores received, yet it has been found possible to utilize the items against other work orders and in some cases the stores were disposed of. For the balance 45 work orders similar action has been taken, but the details are not readily available."

8.12. The Committee are surprised to find that the Corporation has not prepared its own purchase manual though it has gone into production in 1964-65. Till recently, the Corporation had no list of its own, of suppliers and depended upon the lists available with the Director General, Supplies and Disposals and Director General, Technical Development.

8.13. The Ministry have admitted that such a 'position is not satisfactory.' The Committee are convinced that if the Ministry had been vigilant, these shortcomings in stores procurement work would have come to notice much earlier. The Committee hope that the compilation of the purchase manual and the publication of list of suppliers will now be completed without any further delay.

8.14. The Committee also find that the maximum, minimum and ordering levels had not been fixed in the case of all items. The Committee note that there is also no system in vogue by which the items of stores procured for specific works could be located in a consolidated manner.

8.15. The Committee have been told that limits have now been fixed for 7,112 items. The Committee feel that the Corporation should complete the process expeditiously in the case of remaining such items which can be converted as 'stock items', so that duplication of orders and unnecessary purchases are avoided.

8.16. The list of stores procured for cancelled work orders had not been prepared for a long time and consequently the action for their alternative use or disposal had not been taken. Out of the 498 cancelled work orders lists of stores procured for only 55 work orders had been prepared till July, 1970. Another list of 417 cancelled work orders has been prepared now. Out of these no details are available in respect of 45 work orders as regards procurement and disposal of stores.

8.17. The Committee recommend that all the cases where records are not available with regard to the procurement or disposal of materials should be investigated in order to fix responsibility therefor. The List of Stores procured for work orders cancelled should be completed without delay and surplus stores identified with a view to avoiding further procurement of the same mateials.

8.18. The Committee would like the Corporation to evolve a procedure by which the contingency for cancellation of orders is minimised and in any case where an order is cancelled no time should be lost in ensuring that stores ordered for it are not procured to the extent feasible.

B. Defective and Ill Planned Purchases

(i) *Unnecessary purchase of portable hand operated swing boom cranes*

8.19. In January, 1963 the Company placed an order on a firm for twelve portable hand operated swing boom cranes at a total cost of Rs. 3,86,760 (*i.e.* Rs. 32,230 each). The cranes which were required in connection with the work of stores handling at the various projects of the Company were to be supplied within 2 to 3 months of the date of the order. As the firm could not make the supply within the stipulated period, an extension of time up to 30th December, 1963 was granted. Five cranes were received between September, 1963 and December, 1963. In August, 1964 the firm informed the Company that, as the latter had failed to make payment in terms of the purchase order, it would not supply the remaining 7 cranes.

8.20. The Management informed the Audit in April, 1967 that none of the 5 cranes received had been put to use. Two out of these were declared as surplus on 15th September, 1966.

8.21. The purchase of the cranes has resulted in the blocking up of capital amount to Rs. 1.61 lakhs.

8.22. In this connection, the Management informed Audit in (February, 1967) as follows :—

> "Out of 5 cranes received at Central Stores, 2 cranes were sent to Heavy Machine Building Project and they were used for some time. These cranes had been passed by the Director General, Supplies and Disposals' Inspectors before they were despatched to Heavy Engineering Corporation. After they were received here, they were found to be not fully suitable for our purpose. The cranes have been declared surplus to the requirement at the Store Depots. The possibility of their being used in the production Department is under consideration by the Works Manager/General Manager (Heavy Machine Building Project)."

8.23. It is seen that no records were shown to Audit regarding the utilisation of the two cranes referred to in the Management's reply.

8.24. The Committee desired to know whether proper records were maintained to indicate the utilisation of the cranes, and the reasons for the cranes becoming surplus. The Management in written reply indicated that the "Matter is under investigation and report would follow."

8.25. During evidence, the Chairman, explained that the HEC had to place orders for cranes without thorough checking during the construction

phase and consequently the cranes purchased became surplus and were not being used at all. HEC was taking action for their disposal.

8.26. The Committee find that the Corporation purchased 5 cranes in 1963 at a cost of Rs. 32,230 each. The management claimed that 2 cranes were used for some time in the Heavy Machine Building Plant. No records were, however, shown to Audit regarding the utilisation of these two cranes. All the cranes are lying unutilised in the stores as there is not much use for them. What is most surprising is that after 8 years of purchase of these cranes, the matter is still under investigation.

8.27. The Committee suggest that the investigation should be completed without delay and they should be informed as to why cranes were purchased without making sure of their utility to the Corporation. The Committee would also like the Corporation to intimate after investigation, whether any of the cranes is defective and if so, fix responsibility for not detectng the same at the time of inspection and payment.

(ii) *Unnecessary purchase of tower cranes*

8.28. Under an agreement entered into in March, 1961 with a foreign firm for the purchase of construction equipment, the Company received 4 tower cranes of 3 ton capacity each at a total cost of Rs. 5.42 lakhs during the period from March, 1962 to March, 1963.

8.29. One crane which was issued on 4the January, 1968 to the Fabrication Contract Division of the Heavy Machine Building Plant, was erected on 29th February, 1968 and has been put into operation with effect from 25th October, 1968.

8.30. In a written reply the Management have informed the Committee that "the crane has been damaged recently. The boon was damaged. Plans are in hand to rectify the crane and put it into operation again. The remaining 3 cranes, including the spares, have been lying (October, 1968) unused in the stores since the dates of receipt. No efforts was made to dispose of these cranes as the same had not been declared as surplus. The unnecessary purchase resulted in the blocking up of capital and consequential loss of interest of Rs. 2.00 lakhs (up to October, 1968) at the borrowing rates of the Company.

8.31. The management have now stated that these cranes declared surplus in 1969. The Ministry *informed Audit (December, 1968) as follows :—

> "According to normal Russian practice of construction, Tower Cranes are used for construction of building and equipment which go side by side. Accordingly under the advice of the Russians, the Tower Cranes were procured as part of the equipment. According to Indian practice, erection of the buildings is done with ordinary erection mast which the contractors normally use with large labour force. Therefore, they did not use the Tower Cranes for their erection work.....The Tower Cranes need large sleepers and rail sections which have to be shifted as the Crane moves, and therefore, it was found that it was not popular with our erection contractors for the type of building construction which we have put up in our HMBP".

*According to local verification done by Audit one more crane was erected thus making the number of cranes as erected as 2.

8.32. The Committee find that the Corporation purchased 4 tower cranes at a total cost of Rs. 5.42 lakhs in 1962-63, merely on the advice of the collaborators, without finding out whether these could be used by the Indian erection contractors. Except for one or two cranes, which were put into operation after 5 years, the remaining cranes have not been put to any use. The Committee deprecate that the cranes were not declared surplus to the requirement and no efforts were made to dispose them of as soon as it was known that these were no longer required. The Committee would like that the matter regarding the unnecessary purchase of cranes and the delay caused in their disposal should be investigated and responsibility fixed for such costly lapses. Remedial measures should also be taken to see that such lapses do not recur. The Committee would like Government/HEC to review the position and take appropriate action for either pressing into service the cranes/disposing them to other Public Undertakings who could put them to productive use.

(iii) *Purchase of Two Used Cranes*

8.33. In 1961, the Company purchased at a total cost of Rs. 1.67 lakhs two used cranes (one crane of 5 ton capacity and the other of 20 ton capacity) from the Bhilai Steel Plant for loading, unloading and shifting of the materials and equipments. Although the officers, who were sent to Bhilai for finalising the deal, had certified the cranes to be in good condition, it was found on their arrival at Ranchi that they required overhauling before they could be put to use. After the necessary overhauling (cost of overhauling not ascertainable), the cranes were commissioned on 26th July, 1961 (5 ton capacity) and 20th September, 1961 (20 ton capacity). Up to January, 1963 these were used for 1,063 hours and 300 hours only as against their available life of 1,900 hours (5 ton capacity crane) and 9,676 hours (20 ton capacity crane) respectively and have since been lying in a dismantled condition till March, 1970, when these were sold at a loss of Rs. 16,800 with reference to their book value or Rs. 87,658 with reference to their residual working life.

8.34. The Committee enquired whether any responsibility had been fixed for purchasing defective cranes. They further asked as to why the cranes could not be fully utilised after necessary over-hauling. In a written reply, the management have furnished the following information :—

"In order to meet the immediate demand of construction and erection work the two cranes from Bhilai Steel Project, which were in working condition were obtained by the Corporation. The cranes could not be used immediately after bringing as these required certain repairs as is common with the used equipments. In the absence of spares, tools and operating and maintenance manual the repairs could not be carried out quickly.

From the position stated above, it will be seen that the cranes were not defective but certain repairs had to be carried out before use. Hence, the question of fixing responsibility has not been taken up.

After the acquisition of these cranes, construction equipments ordered by H.E.C. started coming in and so, necessary work was undertaken by other construction equipments keeping the two cranes in question for emergency work. A technical survey of all the equipment was made in 1966, when the two cranes in question were declared for disposal as further repairs to the cranes were not economical."

8.35. The Committee find that the Corporation purchased two used cranes at a total cost of Rs. 1.67 lakhs. The cranes were used after necessary overhauling for 1063 hours and 300 hrs. only as against their available life of 1900 hrs. and 9,676 hrs. respectively. The Committee note that the cranes could not be brought into use even after extensive repairs and had to be disposed of ultimately at a loss of Rs. 16,800.00. The Committee feel that the matter regarding purchase of used cranes needs a further probe with a view to fixing responsibility.

(iv) *Purchase of Jib Cranes*

8.36. During the period from January, 1965 to February, 1966 and August, 1965 to August, 1966 the Company purchased 67 one ton and 22 two-ton pillar type jib cranes at a cost of Rs. 8.36 lakhs and Rs. 3.09 lakhs respectively, for installation in different shops of the Heavy Machine Building Plant although according to the Project Report these cranes were required for use by January, 1964.

8.37. As regards the two-ton cranes only 18 out of 22 cranes were erected upto June, 1969.

8.38. The Management have now informed the Committee that the remaining 4 two ton cranes were erected before 8-12-69 in the Structural Fabrication Workshop. The Jib Cranes were load tested and found satisfactory.

8.39. The Committee enquired as to how the management justified the purchase of these cranes so much in advance of the requirements. In a written reply the management have stated as under :—

> "These Jib Cranes were required for the Production Shop of Heavy Machine Building Plant as per the detailed Project report by the Soviet authorities. The HMBP was to be erected in 2 stages i.e. 1st stage for capacity of 45,000 tonnes and second and final stage for a capacity of 80,000 tonnes. HMBP started production in 1965 itself and by that time most of the work of 1st stage had been completed and also part of the 2nd stage. It will, therefore, be seen that the cranes obtained during January 1965 to August 1966 were not procured very much in advance of the requirements."

8.40. After erection of a one ton crane, it was found on 28-2-1966 that due to faulty design four persons instead of one were required to operate each of these cranes. The erection of the remaining cranes was, therefore, stopped and these have not been used so far (January, 1970).

8.41. The defect in the design had been noticed as early as 28-8-1964 i.e. before the drawings were approved but it was felt at that time that these defects could be overcome by providing sufficient lubrication in the bearings and the C. I. Blocks of the cranes.

8.42. On 29-9-1967, the Company decided to carry out the modification in the cranes at an estimated cost of Rs. 1.15 lakhs to be shared equally with the suppliers. The work is, however, still in the preliminary stage.

8.43. Thus the purchase of defective cranes (one ton cranes) and their procurement much in advance of the actual requirements (two ton cranes)

has resulted in the blocking of capital and loss of interest thereon. The Management informed Audit (January 1970) as follows :

> "The design of the Jib Crane.....was referred to the Chief of Soviet specialists. He advised certain modifications which were also accepted by the Deputy C. E. and the Chief Project Officer. The sample Jib Crane was also inspected and certified as satisfactory by an officer of the Director General, Supplies and Disposals."

8.44. As regards the fixation of responsibility, it has been stated that "the matter was fully investigated by C. E. (Projects) and after careful consideration of the case it was decided by the Chairman that the question of fixing of responsibility did not arise.....".

8.45. The Committee enquired as to how the earlier expectations turned out to be inaccurate. They further asked whether modifications had since been carried out and whether the cranes had been put to use, if not, why it was taking so much time and how the work was being carried on in the absence of these cranes. In reply the management have furnished the following information :—

> "It was earlier anticipated by the Soviet Designers and our designers that by lubrication of the bearing surfaces and C. I. Block, the cranes could be operated successfully, these being only 1 ton Jib Cranes. It was also thought that by this arrangement import could be avoided as the bearings required had to be imported. In actual practice it was however found that a modification would be necessary involving the provision of a "Taper Roller Bearing." As these bearings were not available indigenously, an order for these has been placed in USSR and the receipt of the bearings is awaited. The modification will be carried out and the cranes will be put to use in about 2 months time after receipt of the Bearings. In the meanwhile the work is being carried out by existing E.O.T. cranes in their place."

8.46. The Committee find that the Corporation purchased 67 one ton pillar type Jib Cranes during January, 1965 to Feb., 1966 at a cost of Rs. 8.36 lakhs even though a defect in design was noticed when the drawings were approved in 1964. The Committee have now been informed that necessary modification will now be carried out with the help of 'Taper Roller Bearings' which are being imported from USSR and the Cranes will be put to use in about two months time after receipt of the bearings.

8.47. The Committee consider that the delay caused in carrying out necessary modifications in the cranes is hardly justified. The Committee desire that the matter regarding purchase of defective cranes in advance of actual requirement and for not carrying out the modifications within a reasonable limit of time resulting in blocking of capital and loss of interest thereon need further examination with a view to fix responsibility for the lapses, if any.

(v) *Unnecessary Purchase of winches*

8.48. During the period from December, 1963 to July, 1965 the

Company purchased the following winches :—

8 ton winches	1 no. on 31-12-1963
	1 no. on 5-5-1964
5 ton winches	2 nos. on 17-7-1965
3 ton winches	2 nos. on 3-6-1964
	2 nos. on 12-6-1964
	2 nos. on 23-5-1964

8.49. None of the winches received has been put to use till June, 1967.

8.50. The purchase of 10 winches at a cost of Rs. 4.30 lakhs which have been lying idle thus lacked justification.

8.51. It may also be mentioned that the Company had already in stock 34 winches (21 nos. of 5 ton winches and 13 nos. of 3 ton winches), which had been imported from a foreign country in August, 1962 and were lying unutilised since. It is, therefore, not clear why the Company purchased 2 nos. of 5 ton winches and 6 nos. of 3 ton winches.

8.52. The Committee enquired about the reasons for such purchase. In a written reply the management have stated that :

> "At the time of purchase of these winches there were 4 plants under this Corporation including the Coal Mining Machinery Project. The total No. of winches required for construction were as per the recommendation of the collaborator for all the 4 projects."

8.53. As regards the utilisation of winches the management have stated as under :—

> "Out of 10 winches purchased, 8 winches have already been issued to the shops and they are being utilised. The two winches which are in the stores have not been issued as there is a dispute over the payment.

8.54. As on date, there are 25 winches in stock. A committee has been nominated to investigate in detail about the purchase of winches and after the Committee's report is received the necessary information will be furnished."

8.55. The Committee are surprised to note that the Corporation purchased 2 nos. of 5 ton winches and 6 nos. of 3 ton winches in 1964 although 21 nos. of 5 ton winches and 13 Nos. of 3 ton winches were already in stock, and were lying unutilised since August, 1962. In addition, the Corporation purchased 2 nos. of 8 ton winches during 1963 and 1964. As on date there are in all 25 winches in stock. Although the winches were purchased as far back as in 1962, 1963 and 1964, an enquiry Committee has been appointed only recently to investigate in detail about the unnecessary purchase of winches and it is still to submit the report. The Committee would like to be informed about the findings of the investigating Committee. They would also like to be furnished with a statement indicating the period for which each of the winches was lying unutilised and what had been the estimated loss on account of such an ill-planned purchase.

(vi) *Unnecessary purchase of hose pipes*

8.56. During the period from September, 1964 to December, 1965 the Company purchased 37,641,84 meters of hose pipes of various sizes at a

total cost of Rs. 2.51 lakhs for production and repair and maintenance of the equipment. Out of these only 12,424.84 metres valued at Rs. 0.76 lakh were utilised up to 7th September, 1968.

8.57. In November, 1966 the Company declared 17,669.5 metres of hose pipes (received during 1965) valued at Rs. 1.35 lakhs as surplus to its requirement. A list of the surplus hose pipes was thereafter circulated to other Government Undertakings. As no Undertaking showed any interest in purchasing these hose pipes, the Management proposed in June, 1968 to dispose of these through open tender.

8.58. It is understood that 13,024.02 metres of these pipes are still lying in stores (including those declared surplus). Out of the surplus pipes, 4,656.80 metres only were disposed of by auction on 28-3-1970. (In other words the entire quantity lying in stores represent these pipes which have been declared surplus).

8.59. The unnecessary purchase resulted in the blocking up of Rs. 1.35 lakhs with loss of interest of Rs. 37,300 thereon up to February, 1969 at the borrowing rates of the Company.

8.60. The Ministry informed Audit in February, 1969 as follows :—

> "The hose pipes were intended for continuous use by various sections of the Plant for off-take over a period of time towards our targeted production of 80,000 tons. As activities of the shop have not grown up to the desired level the hose pipes could not be utilised to the expected extent. These pipes cannot be used now under the present manufacturing programme and their use in the immediate future is also not anticipated."

8.61. The Committee enquired the reasons for which these pipes were declared surplus to the requirements and why immediate action was not taken for disposal of the surplus. The Management explained that "The items were declared surplus as they were found to be slow-moving; however, efforts were made to see that these pipes could be utilised in various projects of the Corporation and after this examination and further utilisation the items were declared surplus for disposal."

The Management further stated that these hose pipes were tendered for sale by advertisement on 17-3-1969 without any result. In April, 1969 the list of surplus hose pipes were circulated to Railways and attempt was also made to sell them through Public Auction on 28-3-1970. In spite of these, the hose pipes could not be disposed of. As on date, 8378 metres length of hose pipes were pending disposal. The Survey Committee is reviewing the items for recommending further action for their disposal.

8.62. The Committee are intrigued to find that it has not been found possible to dispose of the surplus 13,024.02 metres of hose pipes even by public auction. This raises some doubts about the genuineness of the quality of the hose pipes purchased. The Committee would therefore suggest that the entire transaction should be thoroughly investigated to determine how such excessive purchase, far in excess of the requirements was made and whether the normal procedure of calling for tenders, placing of orders, inspection, purchase and careful storage was followed. Responsibility should be fixed for the lapses and remedial measures taken to ensure that it does not recur.

8.63. The Committee need hardly add that efforts should continue to be made to dispose of the balance surplus hose pipe without delay.

(vii) *Purchase of Oval Covers*

8.64. In anticipation of any specific order, the Company entered into a contract on 29-4-1965 with the USSR authorities for the supply of components (with oval covers) for ladle cars. The supply was completed during 22-6-1965 to 28-11-1965.

8.65. On 7-9-1965 the Bhilai Steel Plant placed orders for 10 iron ladle cars (as part of the order for 6th Blast Furnace equipment) with cylindrical covers instead of oval covers. As a result, oval covers weighing 12.905 M. tons and valued at Rs. 68,847 have been lying unused, with no future prospect for their utilisation.

8.66. The Management informed Audit in January, 1970 that the components were imported for use in the manufacture of standard equipment at that time included in the production programme. The Bhilai Steel Plant had received ladle cars of identical design from the U.S.S.R. but on account of certain difficulties experienced during their utilisation, it asked the Company for supply of ladle cars with cylindrical top. By that time the order for the components had already been finalised with U.S.S.R.

8.67. The Committee enquired as to how it was proposed to utilise these oval covers. The Management stated that "it is proposed to dispose of these oval covers".

(viii) *Purchase of Induction Motors*

8.68. During February, 1964 to January, 1967 the Company placed 24 orders for the purchase of 379 induction motors (including one order for 200 motors placed on 31-12-1965) to be utilised in the manufacture of different items to be taken up by the Heavy Machine Building Plant. Out of 330 motors valued at Rs. 5,14,197 received, 38 motors valuing Rs. 48,691 have been issued to works so far (including two motors lost by theft from a shop), 24 motors costing Rs. 52,670 have been sold to a Government Undertaking in connection with a work order placed on it, and 5 motors valuing Rs. 9,791 have been sold to other Government Undertakings, thereby leaving 263 motors valuing Rs. 4,03,045 still in stock (May, 1969).

8.69. The 200 motors ordered on 31-12-1965 were meant for utilisation in the manufacture of 5-Ton EOT Crane Trolleys taken up by the Company without any specific order in hand. The work for the manufacture of these trolleys were suspended in February, 1967 after an expenditure of Rs. 2,98,984 had been incurred thereon. A Committee appointed in January, 1967 recommended the cancellation of order for 160 motors but the order for 47 motors only could be cancelled after paying a compensation of Rs. 1,900 to the suppliers as by that time balance quantity had already been received.

8.70. Out of 177 motors received against the remaining 23 orders for 179 motors, 25 motors valued at Rs. 20,230 were to be utilised in the manufacture of pig casting machines but could not be used as similar number of motors had been imported alongwith other equipment.

8.71. Open tenders were invited on 11-3-1969 for the sale of surplus motors but there was no response. Out of 263 motors lying in stock, 49 motors were issued to shops up to December, 1969 but these are mostly lying unused.

8.72. The Management informed the Audit in January, 1970 as follows :—

> "Since all the surplus motors are standard crane duty induction motors, these are expected to be utilised in future design of cranes .....A Committee has also been set up to enquire into the circumstances leading to the placing of order for 200 induction motors.....and also to consider the question of utilisation or disposal of the motors lying surplus in stock.....".

8.73. The Committee enquired whether the enquiry Committee had completed its investigations if so what its findings were. In reply the Management have furnished the following information :—

"The enquiry committee has completed its investigation in July, 1970 in regard to :

I. Whether any officer/officers could be held responsible for the purchase and acceptance of supply of these motors largely in excess of the quantity actually required by the Corporation ?

II. Consider the question of utilisation or disposal of the motors lying surplus in stock and to give their recommendation for the same.

8.74. The Committee in its report has stated that "it is not necessary to hold any officer responsible for purchase of the materials as the decision to manufacture the standard cranes and subsequently to stop production of such items were based on general business principles."

8.75. The recommendations of the Committee for the disposal of motors now lying surplus in stock are :

(i) A party consisting of an officer from Stores and Purchase Division and a representative from Electrical Design of HMBP may be sent to the various steel plants and other respective buyers in order to explore the possibilities of disposing the motors which may be required by them for maintenance and other purposes.

(ii) Some of the leading manufacturers of motors or selling agents may be approached for selling these motors either on a commission basis or with the stipulation they may sell this at the current market price but reimburse the HEC with the actual cost, etc. incurred by us if reasonable prices are forthcoming taking into consideration the loss by way of storage etc.

(iii) The particulars of the motors can be given to Bokaro Steel Plant, etc. so that they can examine for future utilisation.

(iv) Garden Reach Workshop may be pursued once again to review the present position and take over these motors for use by them if necessary by modification, etc.

(v) Bharat Heavy Electricals Ltd., and NGEF may also be given details of the surplus motors so that they can divert to HEC the

enquiries or orders they may receive for similar motors from their customers in future.

(vi) Target dates may be fixed for replies from various parties when references are made.

(vii) A second attempt may also be made concurrently to sell these motors to the Crane Manufacturers in the country.

(viii) If the alternative given above do not produce result, we may resort to public auction. All the actions recommended above should be taken, simultaneously to the extent possible."

Action has been taken in accordance with the above recommendations of the Committee in respect of disposal of the Induction Motors. As this has not produced any result an advertised tender had been issued and opened on 10-11-1971. The response to this tender also, however, is poor."

8.76. The Committee find that the purchase of components (with oval covers for ladle cars) in anticipation of specific order resulted in an unnecessary accumulation of capital to the extent of Rs. 68,847. The Committee have been informed that there is no prospect of their utilisation and it is proposed to dispose of these oval covers.

8.77. The Committee also note that the Corporation had placed an order for 379 induction motors, out of which 330 motors valued at Rs. 5,14,197 were received. Order for 47 motors had to be cancelled after paying a compensation of Rs. 1,900 to the suppliers as by that time balance quantity had already been received. 29 motors were sold to other Government undertakings. 263 motors valued at Rs. 4,03,045 were lying in the stock.

8.78. The Committee were informed that an Enquiry Committee was set up to find out the circumstances leading to the placing of orders for induction motors and also to consider the question of utilisation or disposal of the motors lying surplus in stock. In accordance with the measures suggested by the Enquiry Committee action was taken to approach other Public Undertakings including the Bokaro Steel, Garden Reach Workshop and Bharat Heavy Electricals Ltd., for the sale of the motors but without any result. An advertised tender was also issued towards the end of last year but the response has been poor.

8.79. The Committee are of the opinion that undue haste was shown in placing the orders for induction motors without examining their actual requirements.

8.80. The Committee, therefore suggest that the matter should be investigated further and responsibility for the lapses, if any, should be fixed, inter-alia finding out the reasons for the non-disposal of the motors.

(ix) *Purchase of Manila Ropes*

8.81. In March, 1965, 4,846 kgs. of Manila ropes valued at Rs. 18,173 plus sales tax and freight were purchased from a firm. Out of this 4,500 kgs. were rejected on 8-4-1965 on inspection because of inferior quality. On 6-7-1965 the same Inspecting Officer, however, accepted the rejected ropes provisionally and recommended 80 per cent. payment. Accordingly, a sum of Rs. 14,108 was paid to the suppliers on 28-7-1965.

8.82. In July, 1966, the ropes were got tested by the Government Test House, Alipore, Calcutta which certified that the ropes were far below the required specifications and on this basis the same Inspecting Officer finally rejected on 27-8-1966 the entire quantity of 4,500 kgs. of Manila ropes which is still lying in the stores (January, 1970).

8.83. The Management informed Audit in January, 1970 as follows :—

> "The case was referred to the sole arbitration of Chairman, Heavy Engineering Corporation who has given the award in favour of the supplier. However, he wanted further investigation as to ascertain the reasons for delay in getting the sample tested from Government Test House, Alipore. This is being done."

8.84. The Committee enquired as to what were the main reasons for which the award went in favour of the suppliers. In a written reply the management have stated as under :—

> "The main reason for which the award went in favour of the suppliers was that there was a delay of one year in sending the sample for test to National Test House, Alipore. In view of this, the suppliers contention that the material was of a perishable nature and liable to deteriorate with time, was upheld by the arbitrator.

8.85. The Committee enquired whether further investigation had since been completed and if so, what were the findings. The Management have furnished the following information :—

> "An enquiry officer was nominated to investigate the case. The Enquiry Officer came to the conclusion that the concerned Store-Keeper and an Assistant Purchase Officer were responsible for this inordinate delay. The Store keeper is however no longer alive and the concerned Assistant Purchase Officer has also left the service of the Corporation."

8.86. The Committee enquired whether any action was taken against the Inspecting Officer who accepted the already rejected ropes and recommended 80 per cent payment. In a written reply the management have furnished the following information :—

> "A Committee consisting of 3 senior officers were asked to inspect the material and give their recommendation. In their joint note the committee recommended provisional payment of 80% and payment of balance 20% subject to the material being found suitable after test in National Test House, Alipore. The Inspecting Officer who subsequently signed and released the inspection note recommending 80% payment did so in accordance with the recommendations of the Committee. The question of taking action against the Inspecting Officer does not therefore arise.

8.87. The Committee find that in 1965 the Corporation purchased 4,846 kgs. of Manila Ropes valued at Rs. 18,173. Out of these 4,500 kgs. were rejected by an inspecting officer because of inferior quality. The Committee are surprised that the same inspecting officer accepted the rejected ropes and recommended 80 per cent payment. The Committee are informed that the inspecting officer did so on the basis of the recommendation of a Committee consisting of 3 senior officers who were asked to inspect the material. The ropes were got tested in Government Alipore Test House in

1966 and found to be far below the required specifications and on this basis the same had been rejected by the same inspecting officer in August, 1966 and the entire quantity is stated to be lying in stores.

8.88. The Committee consider that neither the inspecting officer nor the Committee of 3 senior officers have acted with a full sense of responsibility and this resulted in an injudicious purchase of Manila Ropes which could not be disposed of.

8.89. The Committee are constrained to find how these ropes came to be later accepted and paid for and how the sample of the rope was not sent promptly to the Government Alipore Testing House. The Committee would like these aspects to be enquired into and responsibility fixed for the lapses.

(x) *Purchase of Electrodes*

8.90. During the years 1964-65 and 1965-66 the Heavy Machine Building Project purchased 59,40,928 nos. and 22,632 kgs. of electrodes of different kinds valued at Rs. 13.71 lakhs and Rs. 1.04 lakhs respectively.

8.91. Out of these, 13,57,900 nos. and 12,374,75 kgs. of electrodes valued at Rs. 2.65 lakhs were declared as surplus to requirement on the basis of an assessment made in June, 1966 by a Committee which was appointed to review the stock position of electrodes.

8.92. As on 15-10-1970, 2,19,690 nos. and 16,113 kgs. of electrodes were still lying in stock (*i.e.* even after a lapse of nearly 5 years). In reply to this para the Ministry informed Audit in February, 1968 that the matter was under examination.

8.93. The Committee enquired as to what were the reasons for declaring the electrodes surplus to requirements. In a written reply it has been stated that "These items were declared surplus as they were slow moving items."

8.94. It is understood from Audit that 4,28,180 nos. and 2,297 kgs. of electrodes were received in stores after June, 1966 *i.e.* after the Committee declared a portion of the electrodes as surplus to the requirements. The Committee enquired whether it was not possible to cancel the orders for these electrodes.

In reply it has been stated that "Electrodes received in stores after 1966 were of different type to the one already with us".

8.95. As regards the latest position regarding the disposal/utilisation of these surplus electrodes, the management has furnished the following information :—

> "At present we are left with 71,160 nos. and 12,374.75 kgs. electrodes. All 71.160 nos. are expected to be utilised internally and the supply of 12,374.75 kgs. is under dispute with the suppliers."*

8.96. During the period from 14-1-1964 to 27-7-1964, 12,614.25 kgs. of continuous wire electrodes valued at Rs. 32,712 were purchased from a

*According to local verification done by Audit full payment for these electrodes has already been made.

Bombay firm for use in the fabrication of structural in the Heavy Machine Building Plant. According to the purchase order all the electrodes were to be inspected by the Director General, Supplies and Disposals before payment was to be made, but only a sample test was carried out and inspection certificate was issued in December, 1964; full payment was made in January, 1965.

8.97. When more samples were tested in July, 1965, the electrodes were found unsuitable and it was decided to carry out further tests. As a result of further tests conducted in January, 1967, the electrodes were found of poor quality and not conforming to the specifications. It was, therefore, decided in June, 1967 that the suppliers should be requested to take back the materials and if they declined, these should be sold by auction. The electrodes have not been disposed of so far and a quantity of 12,374.75 kgs. (the balance having been consumed in testing) is still (January, 1970) lying.

8.98. A repeat order was placed by the Foundry Forge Plant in June, 1964 on the same firm for the supply of electrodes of identical specifications and a quantity of 12006.25 kgs. was received up to July, 1966 (8053.30 kgs. up to June, 1965 and the balance thereafter). The entire quantity is lying unused in stock.

8.99. While payment amounting to Rs. 20,376.85 for 8053.30 kgs. of electrodes has already been made, the payment for balance quantity of 3952.55 kgs. still remains to be made. The payment for a quantity of 1157.8 kgs. was made on 22-1-1965 even without the receipt of inspection certificate from the Inspection authority while payment for 6895.5 kgs. was released on the basis of an inspection certificate during 27-8-1965 issued without proper tests which could not be conducted due to non-receipt of correct samples of fluxes from the suppliers. No certified Receipt Vouchers was, however, obtained from Stores Department before making the payment although the same was necessary in accordance with the conditions stipulated in the purchase order. (The C.R.V. was not issued by the department due to the supplier's failure to furnish guarantee certificates). Thus the lack of co-ordination between the two plants of the Company and issue of Inspection Certificates without proper tests/payment without inspection, has resulted in the purchase of further quantity of electrodes of substandard quality.

8.100. In November, 1968, the Director (Co-ordination) of the Company ordered that the matter should be investigated to find out whether there were any flaws in the procedure and the responsibility fixed for making payment without proper certificates. The investigation has not been completed so far (January, 1970).

8.101. The Management informed Audit (January, 1970) that the matter was referred to Arbitration but the supplier has taken legal steps to get the proceedings suspended.

8.102. In a written reply the management have now informed the Committee that "The investigation could not be started as the relevent files could not be made available as they were required for the purpose of arbitration. Subsequently the files were required by the Lawyers in connection with the court case filed by suppliers in Bombay Court. At present, the arbitration has been stopped by the suppliers and the whole matter is pending in the court at Bombay."

8.103. During evidence the Committee enquired as to what was the dispute and why the Party had gone to the Court. The Chairman, HEC replied that the Corporation asked the party to take back the defective electrodes for which the party refused and had gone to the Court. The Committee enquired whether the electrodes were beyond repair. In reply, the witness stated that "they are not repairable".

8.104. The Committee enquired as to why the payment was made if the electrodes were rejected. The Chairman, HEC stated, "if we buy these things through the D.G.S. & D., then the inspection of the DGS is not final. We pay on the basis of the inspection note of the DGS & D.

8.105. The Committee find that in 1964 the Corporation purchased 12,614.25 kgs. of continuous wire electrodes valued at Rs. 32,712 from a Bombay firm. The payment was made on the basis of an inspection certificate issued by DGS&D. D.G.S. & D. carried out only sample test although they were required to test all the electrodes. In July, 1965, the electrodes were found to be unsuitable. Further tests were carried out after about one and half years. A repeat order was placed by the Foundry Forge Plant in June, 1964 on the same firm for a quantity of 12006.25 kgs. Payment for a quantity of 1157.8 kgs. was made without the receipt of inspection certificate from the inspection authority and payment for 6895.5 kgs. was released on the basis of an inspection certificate without proper tests. No certificate receipt voucher was obtained from the stores department before making the payment. The Committee regret to note that due to lack of coordination between the two plants of the Corporation and due to the issue of inspection certificates without proper tests and payment without inspection has resulted in the purchase of electrodes of substandard quality. It is significant to note that even after about 7 to 8 years of the purchase of the defective material the Corporation has not been able to start any investigation in order to find out flaws in procedure and for fixing responsibility. According to the Management the investigation could not be started as the relevant files could not be made available as they were required for the purpose of arbitration. Subsequently the files were required by the lawyers in connection with the court case filed by the suppliers in Bombay Court.

8.106. The Committee feel that the whole matter smacks of serious irregularities in the purchase procedure. They also deprecate that the matter has been allowed to linger on for years without fixing responsibility for such gross lapses. The Committee would like the Corporation to pinpoint irregularities in the transactions, fix responsibility and take remedial measures to obviate recurrence.

8.107. The Committee are greatly distressed to find that such a large number of cases of defective and ill-planned purchases should have occurred resulting in loss of several lakhs of rupees to the Corporation. Apart from the loss, the Committee are greatly exercised about the procurement and purchase procedure in the Corporation which has made possible such gross irregularities. The Committee would, therefore, stress that this and all other cases of irregularities in stores should be closely analysed with a view to identify the shortcomings and deficiencies in the procedure and to rectify the same without delay.

8.108. The Committee would also like the administrative Ministry and the Bureau of Public Enterprises to take special interest in the matter of stores

management for the Committee have come across all too frequently such cases of defective and ill-planned purchases which are symptomatic of a deeper malady. Government should ensure that officers who are initially put in charge of stores and procurement are persons of experience and proven integrity so as to give a sound start in the matter of inventories and procedures for purchase etc. to the Undertaking.

C. Inventory Control

8.109. The Inventory of the Company stood at Rs. 28.47 crores, Rs. 28.87 crores and Rs. 29.87 crores as on 31-3-1969, 31-3-1970 and 31-3-1971 respectively. The value of stores in stock in these years represents requirements for 28 months, 21 months and 15 months respectively.

8.110. The Management informed Audit in January, 1970 that the ideal stock-holding would be the requirement of 12 months for imported stock, 10-12 months for steel and average 6 months for other items and that efforts are being made to achieve this target.

8.111. During evidence the Chairman, HEC stated that :

> "In 1968 the position was that we had 34 months' stock, we have brought it down to 21 months and we are aiming at bringing it down to 8-12 months."

8.112. The Committee enquired as to how the accumulation had arisen. In a written reply the management have stated that :

> "The inventory was not consumed as anticipated due to shortfall in production. However the present trend of the ratio of inventory to the consumption is downward (i.e.) from 21 months in 1969-70 to 15 months in 1970-71. Continuous efforts are being made to reduce the stock of inventory and to reach the level of optimum holdings as far as possible."

8.113. The table below indicates the opening stock, receipts, consumption and closing stock of construction materials, raw materials, stores, spares and components during the years 1966-67 to 1968-69.

(Rs. in lakhs)

	1966-67	1967-68	1968-69
(*i*) Opening balance	1,146·04	1,646·57	1,863·72
(*ii*) Receipts during the year	941·92	877·91	934·29
(*iii*) Consumption during the year	441·39	660·76	754·02
(*iv*) Closing balance	1,646·57	1,863·72	2,043·99

8.114. It is seen that the closing stock was high as compared with consumption. The Management have stated that :

> "The principal reason for the holding of excessive inventory was the shortfall in production. In other wards, since planning of purchases was made on targetted production, a shortfall in production resulted in excessive inventory."

8.115. The Committee enquired as to what extent the inventories were in excess of the actual requirement and what steps had been taken to keep a

constant check on the accumulation of inventories. In a written reply the Management have stated as under :

"HMBP accounts for the bulk of the inventory. The quantum of imported stores in MBBP are more than the estimated. These have been due to heavy inflow of receipts against contracts for Rs. 17 crores placed in 1966-67 and 1967-68 and the production has been less than targets.

HMTP import is mainly of knocked down components and completing parts of machine tools. The quantum of import will reduce with the progressive increase of indigenous content in machine tools produced."

To effect control of inventory :—

(i) A separate inventory cell was set up.

(ii) Norms and targets were fixed for quantum of imported and indigenous stocks, work in progess and finished goods.

(iii) Method and procedure for fixing maximum and minimum ordering level and buffer stock were laid down.

(iv) In FFP major raw materials vital for production like coke, sand, chamottee, ferro-alloys etc. have since been brought under automatic replenishment system.

(v) Trial ABC analysis for HMBP & FFP have been made.

(vi) System of feed back have been evolved with the introduction of various types of returns.

8.116. According to the Management, the ideal stock-holding in the Corporation should cover the requirement for 6-12 months. The Committee, however, find that the actual value of stores in stock as at the end of years 1967-68, 1968-69, 1969-70 and 1970-71, represented 34 months', 28 months', 21 months' and 15 months' requirements respectively. Although the ratio of inventory to consumption is showing a downward trend, as a result of efforts made by the Corporation, the present stock with the Corporation is still on the high side. The Committee recommend that concerted efforts should be made to bring down inventories to reasonable limits so as to avoid unnecessary locking up of working capital in inventories and considerable loss to the Corporation resulting in high cost of production.

D. Delay in the disposal of surplus stores

8.117. The following table indicates the value of stores declared surplus in each of the three Plants and those not disposed of up to 31-3-1969 :—

(Rs. in lakhs)

Plant	Value of stores declared surplus				Value of surplus stores not disposed of up to 31-3-1969			
	1966-67	67-68	68-69	Total	1966-67	67-68	68-69	Total
HMBP	3·80	61·79*	5·34	70·93	3·80	7·04*	4·68	15·52
FFP	14·78	44·29	4·16	63·23	3·23	32·03	4·16	39·42
HMTP	—	39·05	—	39·05	—	31·25	—	31·25
	18·58	145·13	9·50	173·21	7·03	70·32	8·84	86·19

*Does not include the spare parts of imported machinery declared surplus on 26-9-1967 and not disposed of till 31-3-1969 as the value is not known.

8.118. Stores valued at Rs. 3.76 lakhs and Rs. 42.40 lakhs were declared surplus during 1969-70 and 1970-71 respectively. Surplus store pending for disposal as on date is Rs. 25.91 lakhs.

8.119. The Committee would also like the Corporation to analyse in detail the reasons which have led to the accrual of surplus stores of this high value. The Committee consider that if provisioning of stores is done on realistic and sound lines there should not arise occasions for such large quantities of stores to be having declared surplus resulting in loss. The Committee would, therefore, like the Corporation to take necessary remedial measures to see that stores are ordered and provisioned on rational basis to obviate such losses.

IX

FINANCIAL MATTERS

A. Capital Structure

9.1. The following is the capital structure of the Corporation as on 31st March, 1971 :—

(*Rs. in crores*)

(*i*) Authorised Capital	100·00
Paid-up Capital	100·00
(*ii*) Unsecured Loans from Govt. (including Rs. 1·1 crore for working capital)	145·75
(*iii*) Deferred Credit	15·47
Total loans/deferred credit	161·22
Equity—Loans	1 : 1·61

9.2. It will be seen from the above that the total investment on the Undertaking was Rs. 245.75 crores (excluding deferred credit). During evidence the Secretary of the Ministry stated "We have not paid anything more from Government funds since 1st April, 1971".

9.3. In para 136 of their 51st Report on Heavy Engineering Corporation Ltd., the Eestimates Committee (Third Lok Sabha) observed as follows :—

"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."

9.4. In their reply dated 8th November, 1965 the Govt. stated as under :—

> "Approval of the capital costs has been taken up. After these are determined, the question of varying the existing pattern of loan equity parity in respect of these projects will be taken up for consideration."

9.5. During evidence the Committee enquired whether the Company had made any request to the Government to consider the reduction in the imbalance in the equity-loan ratio or otherwise to revise the capital structure in order to reduce the financial burden on the Corporation. The Secretary, Ministry of Steel and Mines (Department of Steel) stated as under :—

> "In August 1963 HEC had said that during the construction period, their requirement particularly the needs of capital investment of plant and machinery and building should be made available in the form of equity and any amount already provided as loan should be converted into equity. This request was not accepted and in reply in July, 1964 Government laid down the conditions for the repayment of the loans.

Thereafter there has not been any formal request, but on our own, we have been considering the question of changing the equity debt ratio, and we have had discussions in the beginning of this year with the Ministry of Finance and in these discussions it was suggested that we might seek the advice of some people who have had experience in Private Sector. Thereafter we had discussion with Shri P. L. Tandon and he suggested that in the Private Sector they would have issued redeemable debentures. This was not possible in the Public Sector. We then had a number of discussions with the Finance Ministry and the Heavy Engineering Corporation. The final position today is that we have tentatively agreed that the ratio of equity to debt will be raised *i.e.* there will be larger equity than 1 : 1, but this would require Cabinet's approval".

9.6. The Committee pointed out that it had already taken 8 years, and enquired as to when the decision was likely to be taken. The Secretary stated as under :—

"I may say that there was a certain amount of difference of opinion between Finance Ministry and ourselves. The Finance Ministry was not in favour of increasing the equity capital. They wanted the alternative of giving the loan free of interest and we were opposed to it because we felt that that will not produce necessary amount of motivation in the equity. Now that agreement has been reached. I expect that the decision of the Government will be available within five or six weeks. I should also mention that the change in this will require a reference to Parliament after the decision has been taken at Government level."

Loans :

9.7. In respect of certain loans the company failed to make payment of interest and repayment of instalments of principal on due dates during the years 1964-65 to 1968-69 with the result that penal interest became payable. The Company requested the Government in August, 1963 for a moratorium in respect of payment of interest and repayment of loan. This was rejected in May, 1967 but subsequently Government provided funds instead of granting moratorium. Interest (including penal interest) on these loans up to 31st March, 1969 amounted to Rs. 82.56 lakhs, out of which the Company had paid an amount of Rs. 43.36 lakhs up to that date.

9.8. During evidence the Secretary of the Ministry informed the Committee that the penal interest for 1969-70 was Rs. 50,000 and in respect of 1970-71, the penal interest outstanding was Rs. 1.75 lakhs.

9.9. The Company had paid all interest due upto 31-3-1971. The only thing that was due was the penal interest. The payment of interest on loan due for 1971-72 would be Rs. 10.17 crores.

9.10. The Committee asked whether Rs. 10.17 crores included part payment of the loan or only interest. The Sercetary replied that it was only interest. He added that "it is one of the reasons why the cost of production is high. Rs. 100 crores may be changed to Rs. 150 crores of equity and when the HEC's performance shall sufficiently improve, this extra

amount can cover the further expansion in activities. This will give considerable relief as far as the cost of production is concerned."

9.11. The Committee regret to note that the question of changing the equity debt ratio has been pending with the Government for about 8 years. The Estimates Committee in their fifty-first Report on Heavy Engineering Corporation Ltd. presented to the Lok Sabha on the 3rd April, 1964, had asked the Government to examine the matter regarding reorganisation of the capital structure. In their reply dated 8th November, 1965, the Government stated that the question of varying the existing pattern of loan equity parity in respect of these projects would be taken up for consideration after the capital costs are determined. The Committee do not find any reason as to why the question of pattern of financing was linked up with the approval of capital costs. The Committee regret to note that even after the approval of the capital costs, the question of revision of the capital structure, in order to reduce the financial burden on the Corporation, still remains to be finally decided. The Secretary of the Ministry admitted during evidence that one of the main reasons for high cost of production was the huge interest on loans which the Corporation was required to pay every year.

9.12. The Committee recommend that after examining all the financial implications the Government should finalise the capital structure of the Corporation without any loss of time.

B. Financial results and Break-even Analysis

9.13. The table below summarises the financial position of the Company for the years 1966-67 to 1969-70.

(Rupees in lakhs)

	1966-67	1967-68	1968-69	1969-70
1	2	3	4	5
Liabilities :				
(a) Paid-up capital	10,000·00	10,000·00	10,000·00	10,000·00
(b) Reserves & Surplus ..	Nil	Nil	Nil	0·02
(c) Borrowings :				
(*i*) From the Govt. of India	7,580·57	10,266·57	11,829·57	13,406·93
(*ii*) From the State Bank of India	—	—	359·15	360·35
(*iii*) Deferred credit ..	1,003·78	819·60	608·65	1,289·95
(d) Current liabilities & provisions (including interest on loan but excluding credit)	1,090·79	1,915·85	2,266·73	3,742·44
TOTAL ..	19,675·14	23,002·02	25,064·10	28,799·69
Assets :				
(e) Gross Block : (Completed and partly under construction)	12,578·62	15,908·51	17,420·66	15,613·23
(f) Less Depreciation	654·57	1,252·53	1,852·78	2,408·04
(g) Net fixed assets	11,924·05	14,655·98	11,937·10	13,205·19
(h) Capital work-in-progress ..	—	—	3,630·78	2,087·08

1	2	3	4	5
(i) Expenditure during construction pending allocation ..	3,090·19	1,055·29	541·48	963·02
(j) Deferred revenue expenditure	602·60	948·18	989·96	1,052·65
(k) Miscellaneous expenditure (Preliminary expenditure)	5·01	5·01	5·01	5·01
(l) Current assets, loans and advances	3,093·06	3,730·82	3,886·99	5,596·38
(m) Cumulative loss ..	960·23	2,606·74	4,072·78	5,890·36
TOTAL ..	19,675·14	23,002·02	25,064·10	28,799·69
(n) Capital employed	13,926,32	16,470,95	13,613,14	15,168,53
(o) Net worth	8,432·16	6,440·07	4,932·25	3,052·00

NOTES—1. Capital employed represents net fixed assets plus working capital.
2. Net worth represents paid-up capital less intangible assets.

9.14. The Company started initial production from 1964-65 and incurred a total loss of Rs. 5,890.36 lakhs upto 31-3-1970. The overall loss incurred by the Undertaking after making provision of depreciation interest on loan. Township/Headquarters overheads etc. during 1970-71 was Rs. 1443.05 lakhs. Thus the cumulative loss upto 31st March, 1971 was Rs. 7.333.41 lakhs.

9.15. The Committee enquired as to what were the reasons for incurring heavy losses. In a written reply the management have stated as follows :—

"The present volume of output is considerably lower than the rated capacity of the plants. Consequently, the heavy fixed charges in the shape of salaries and allowances, depreciation and interest charges are not fully absorbed by the present volume of production at the existing level of selling price."

Break-even Analysis

9.16. The Detailed Project Report of Heavy Machine Building Plant does not indicate the break-even point but on attainment of full production of 80,000 M. Tons, the plant is expected to make a profit of Rs. 1,094.33 lakhs or 39 per cent of a capital investment.

9.17. The Detailed Project Report of Heavy Machine Tools Plant indicated production of four phases and only on reaching the maximum production of about 10,000 M tons in the fourth phase a profit of Rs. 156.22 lakhs is expected. The break-even point has not been indicated in the Detailed Project Report.

According to the Profit and Loss analysis made by the Committee on Public Undertakings in their examination of Heavy Engineering Corporation Ltd. in 1967-68, they found that the gross profit at full production in 1970-71 was expected to be 9 per cent of the capital employed and the net profit after taking into account the interest charges would be 4.5 per cent. The Committee were informed that by 1970-71 there would be accumulated loss of about Rs. 20 crores and it would take the Corporation about 3-4 years to wipe off the losses.

The Committee in para 174 of their Report observed as follows :—

"The Committee are unhappy to observe that the expected profitability of the plants of the Corporation is so low. The main reasons for the low profitability are the higher capital investment and higher cost of production due to low productivity and large inventories etc. Concerted efforts are, therefore, called for to improve the operational and financial working of the Corporation."

The Ministry informed the Committee *vide* their reply dated 9-1-1969, as under :—

"Note. One of the main reasons for low profitability is the wide range of equipment to be produced for a comparatively limited capacity. This will go a long way for achieving self-reliance and the economics would considerably improve when the capacity is multiplied. Every effort is being made to improve the operational and financial working of the Corporation."

9.18. The Detailed Project Report of Foundry Forge Plant also does not indicate either the profitability or the break-even point.

9.19. As per the study made by the Bureau of Public Enterprises in early 1967, an annual turn-over of Rs. 91 crores was anticipated for the Heavy Engineering Corporation on achieving the rated capacity as indicated below :—

(*Rs. in crores*)

1. Heavy Machine Building Plant	56
2. Structural Shop	5
3. Foundry Forge Plant for Spare castings, forgings and rolls ..	20
4. Heavy Machine Tools Plant	10

Against the sales of Rs. 91 crores, the net profit was estimated at Rs. 14.54 crores *i.e.*, 5.9 per cent on the capital investment of Rs. 244.58 crores. On this basis, the break-even point was calculated on a turn-over of Rs. 63 crores to absorb the fixed expenses of Rs. 26 crores as indicated below :—

	Quantity	(Rs. in crores)
HMBP	60,000 M. tons.	42·00
Structural shop	25,000 M. tons.	2·50
H.M.T.P.	200 Machines	5·50
F.F.P.		13·00
		63·00

9.20. On the basis of build up of capacity it was anticipated that each unit would reach the break-even point individually as indicated below :—

F.F.P.	1969-70
H.M.B.P.	1970-71
H.M.T.P.	1971-72

9.21. In August, 1967 the Management, however, made fresh calculations and estimated the total fixed charges at Rs. 34 crores after 1970-71 and the break-even point at Rs. 72 crores of sales to outside parties. The composition of the sales on which the three Plants of the Company are likely to break-even as envisaged by the Management, is as follows :—

	Year in which break-even point to be reached	Quantity of production during the year	Sale value of production during the year
		(M. tons)	(Rs. in lakhs)
H.M.B.P.	1970-71	58,430 + 20,270	4,616
F.F.P.	1971-72	1,17,123	3,400*
H.M.T.P.	1970-71	4,996	870
			8,886

*Including the items produced for sister plants. The sales to outside parties were estimated at Rs. 20 crores.

9.22. While the break-even point is calculated at Rs. 72 crores of sales in a year, the value of orders on hand to be executed during the years 1969-70, 1970-71 and 1971-72 together amounts to Rs. 66.62 crores.

9.23. The calculations made in August, 1967 will not, however, hold good in view of the drastic cut made in the build up of capacity thereafter. The Management informed Audit (January, 1970) that the break-even point had to be shifted because of change in cost from time to time mostly in up-ward direction.

9.24. According to the tentative analysis made by the Management and furnished to Audit in March, 1970, based on the present indications, the Heavy Machine Building Plant is likely to make a profit of Rs. 1.1 crores in 1972-73 at a production level of Rs. 42.5 crores. However, this position is further likely to change on account of the decision since taken by the Management to transfer the castings and forgings from the Foundry Forge Plant to the Heavy Machine Building Plant on "no profit no loss" basis which in other words would mean that the loss presently incurred by the Foundry Forge Plant will now form part of the cost of production in the Heavy Machine Building Plant. The Management have not so far (March, 1970) prepared the revised break-even chart.

9.25. The Ministry informed Audit (July, 1970) as follows :—

"The prices of castings and forgings have since been revised and it is not now based on "No profit no loss basis". The revised break-even analysis on the basis of the revised prices is under preparation....."

9.26. The Committee have been informed that a Technical Committee was constituted to study and recommend transfer prices for 1970-71. Based on the Report of the Committee transfer prices for 1970-71 and 1971-72 have been fixed.

9.27. A further break-even analysis put up to the Board of Directors on 23-7-1970 indicated that the Corporation as a whole would break-even in 1972-73 at a production of 1,19,000 M. tons (sale value being Rs. 77.5

crores). The Heavy Machine Building Plant, Foundry Forge Plant and the Heavy, Machine Tools Plant are expected to break-even during 1972-73, 1974-75 and 1975-76 respectively at a production of 54,500 M. tons (sale value Rs. 45 crores), 83,300 M.tons (sale value Rs. 33.4 crores) and 185 machines (sale value Rs. 7.35 crores). The order position as put up to the Board of Directors, however, indicated the following position as on 31-3-1970 so far as Heavy Machine Building Plant is concerned :—

Year of delivery	Orders outstanding for execution	
	Quantity (M. tons)	Value (Rs. in lakhs)
1964	117·42	11·71
1965	44·14	2·47
1966	926·73	69·03
1967	2055·14	140·40
1968	2618·47	218·78
1969	3905·83	459·06
1970	38404·43	3605·01
1971	35556·50	4821·95
1972	2234·82	290·25
1973	35·30	5·64
1974	2660·00	345·35
1975	217·18	28·95
	88,776·06	9,998·60

9.28. It will be seen that during 1972 the orders in hand to be executed amount to 2234.82 M. tons with a value of Rs. 2.90 crores only whereas during 1971 although the value of orders to be executed is more than that at which this plant is expected to break-even, the quantity to be manufactured is, however, much less than the quantity at which the break-even point is estimated to be attained.

9.29. The Committee enquired as to what the Management had to say about this inconsistency and how it was expected that the break-even point would be reached during 1972-73 when the quantity to be manufactured during that year against the orders in hand for execution was too small. In a written reply the Management have stated as follows :—

"Break even analysis is based on the production of the likely output in the plants over the next few years. Forecast of output is made on the assumption that adequate orders would be available with sufficient lead time and to a certain product mix.

Orders for IInd stage of Bokaro have already been received. Additional orders for Korba Al. Plant and Expansion of Bhilai Steel Plant are also expected to be placed on H.E.C. in near future. Continuous efforts are being made to procure the orders. With the Governments decision to set up three new steel plants it is expected adequate orders would be available."

9.30. The Committee enquired as to what were the reasons for shifting the break-even point from 1970-71 to 1972-73 by bringing down the quantity of production and the sale value thereof at which it was expected to be attained. In reply it has been stated that "Break-even point is dependent on the level of output. The output has been less than the targets resulting in shifting of Break-even point."

9.31. As regards the Foundry Forge Plant and Heavy Machine Tools Plant the following was the position :—

Year of delivery	Orders outstanding for execution	
	Quantity (M. tons.)	Value (Rs. in lakhs)
Foundry Forge Plant		
1965	24·33	0·98
1966	2737·56	24·12
1967	275·66	18·45
1968	1338·45	54·52
1969	1491·74	80·65
1970	4024·72	166·84
1971	1829·36	63·78
1972	322·60	10·64
1973	330·00	125·93
	12374·42	545·91
Heavy Machine tools Plant		
Not known	104·00	21·78
1968	159·95	23·12
1969	289·70	42·89
1970	210·05	35·43
1971	311·81	88·22
	1075·51	211·44

9.32. It is seen that the orders in hand are only upto 1973 in the case of Foundry Forge Plant and upto 1971 for Heavy Machine Tools Plant. The Committee enquired as to how the assessment had been made that these two plants would break-even in 1974-75 and 1975-76 respectively. In this connection the Management have stated that :

"these are based on the forecast of output. Orders on FFP are dependent on the orders on HMBP. With the receipt of orders for HMBP there would be load on FFP. For HMTP products we have selling agreement with Messrs. Batliboi with provision for a certain assured off-take."

9.33. In July, 1970 the Ministry informed the Audit as follows :

"At present the cost of production is higher than the sales realisations. Accordingly, the Corporation has been suffering losses. It is, expected that the Corporation would break even during 1972-73 if the production continues to increase as expected."

9.34. In a written reply the Management have furnished the following forecast for the years 1971-72 to 1975-76 :—

"Forecast of output has been framed on the assumption that there will be sufficient inflow of orders with adequate lead time. Based on the present fore-cast, estimated loss/profit for the next five years is as under :—

(Rs. in lakhs)

1971-72	(—) 1525 (loss)
1972-73	(—) 881 (loss)
1973-74	(+) 193 (Profit)
1974-75	(+) 1023 (Profit)
1975-76	(+) 1704 (Profit)

The forecasts are only tentative and a detailed re-assessment in this respect is being made. These will have to be reviewed periodically based on actual pattern of orders."

9.35. During evidence the Secretary of the Ministry, however, informed the Committee as under :—

"I personally feel that if the HEC continues to improve as it has done in the last 12 months, it should be possible for it to reach a break-even point in 1974-75, provided that our proposal for the new equity debt ratio is finally accepted by Government."

9.36. The Committee pointed out that according to the earlier statement, the break-even point was likely to be reached in 1971-72. The Secretary stated as under :—

"I have made an assessment, as you have put this as one of the questions, and I would say that our aim is to reach the break-even point in 1973-74. But as you have asked whether I am sure that the break-even point will be reached, I am saying 1974-75. We had, in fact, started in the beginning of the year with idea of reaching 45 per cent of rated capacity during 1971-72 and 65 per cent in 1972-73. We now find that it is not possible to do so. From 19 per cent during last year, we have already reached about 30 per cent of rated capacity, and we feel that next year, we will reach 40 per cent. And, therefore, in 1973-74, there is a reasonable chance of reaching the percentage which will give break-even point. But to be on the safe side, by 1974-75, we can certainly turn the corner."

9.37. The Committee enquired as to why they were not able to reach the rated capacity which was estimated years ago. The Secretary explained as under :—

"There are many factors. There has been labour trouble. There have been communal riots. There has been insufficiency of higher mangement cadre. There has been lack of production/planning. And I feel that the biggest handicap that we are facing today is the fact that the workers have got used not to working hard. It takes time to get them out of this habit. This is the reason why I was not in favour of interest free loan, because it would have given the impression that we

are finding artificial methods to cover the losses, and it would have, perhaps, resulted in lack of morale. I have confidence that at present rate by 1973-74, we may be able to reach the break-even point because through certain steps that we have taken, there is a distinct improvement in the rate of production. There is better discipline in the Company. Certainly, we have made a number of changes in the higher management levels. We have picked up one of the best officers from the Department of Defence Production as Director of Production. We have taken as Managing Director an ex-Railway Engineer, who resigned from the Railways and went into the private sector. And he is with us on deputation from the private sector. He has not come here permanently, but for a period of three years. We have got a new man as Chief of Township. We have a new man in charge of system and computerisation. And they are all people with experience. When we are able to get a good Financial Director also, for which we have made certain proposals, our reorganisation would be complete at the higher level. In the lower levels also, a number of changes are being made, but they are being made in stages. The Director of Production that we picked up is a man with considerable experience in forge and foundry, which is the key to the production problems in HEC. If FFP can be improved, then we can have improvement in both HMBP and HMTP."

9.38. The Committee enquired whether there was any norm whereby the Managment could say that the company would start making profit in 3 or 4 years. The Secretary stated as follows :—

"This matter has been examined in detail by the Management and we have also discussed this with them. Obviously, the profit depends also on the prices that you are able to get or you are able to quote. However, there is a much better costing system now than the one that existed before. There had been cases in the past in which the cost given was intended to show profits and yet showed losses. The management has advised us that only when they reach the production of so many crores, they would be able to cost the products on a proper and economical basis, and that by 1974, we should be able to reach that stage. Our aim is still to do it during 1973 and it has been examined. It has been found that it may be much easier to deal with this kind of problem when the computer starts working fully. Personnel are being trained and some trained personnel have been appointed incharge of this and therefore I want to say that the problem has been identified and necessary steps are being taken."

9.39. The Committee on Public Undertakings during their examination of Heavy Engineering Corporation Ltd. in 1967-68 were informed that by 1970-71 there would be an accummulated loss of about Rs. 20 crores and it would take the Corporation about 3-4 years to wipe off the losses. The Committee felt unhappy and observed that the expected profitability of the plants was very low. The Committee now find that even the low expectations of the Ministry have been totally proved to be erroneous. The actual accummulated losses (Rs. 73 crores) by 1970-71 are three and half-times more than that earlier expected.

The Committee are deeply concerned at the huge loss suffered by the Corporation since its inception. According to the forecast furnished by the

management the Corporation is likely to suffer losses to the tune of Rs. 23.5 crores during the next two years although these forcasts are only tentative. The actual losses are likely to be much more as according to the latest assessment of the Ministry, the year of break even point has been shifted from 1973-74 to 1974-75. The Committee feel that at this rate the Corporation is likely to wipe out all its paid up capital in the next two years.

9.40. The Committee highly deplore that the Project Report does not include any realistic assessment as to when the Corporation was likely to break-even. All the exercises made so far differ widely from each other. The break-even point is being shifted from year to year by bringing down the likely production and the sale value thereof. From the studies made so far it is difficult to know as to what are the actual orders anticipated and wheher the Corporation would really break-even within any reasonable measure to time.

X

ORGANISATION

A. General

10.1. The Managing Director is the Chief Executive of the Corporation and is assisted by two functional directors, Director (Finance) and Director (Technical) who are also members of the Board of Directors.

10.2. There are three plants each headed by a General Manager. There is also a General Manager (Planning) in Headquarters.

B. Board of Directors

10.3. No General Manager is in the Board of Directors. The Committee on Public Undertakings in para 132 of their 14th Report on HEC Ltd. (1968) suggested that 'in an undertaking of this size and complexity it would be advantageous to have the General Managers on the Board of Directors.'

10.4. The Committee enquired whether it would be useful to have General Managers on the Board of Directors as in the case of HSL. In a written reply it has been stated that :

> "This matter has not been considered as yet. Three plants and the headquarters of the Corporation are all located at Ranchi and there is considerable coordination and liaison work being taken up in headquarters. The position in HEC is, as such somewhat different from that in HSL. It is not quite necessary to have the General Managers on the Board of Directors."

10.5. In their 14th Report on HEC Ltd. (1967-68) the Committee on Public Undertakings (Fourth Lok Sabha) had suggested that it would be advantageous to have the General Managers on the Board of Directors. The Committee fail to understand as to why the Government has not been able to come to any definite decision to have General Managers in the Board of Directors even after four years of presentation of the Report of the Parliamentary Committee. On the one hand, it has been stated that it is not quite necessary to have the General Managers on the Board of Directors and on the other hand, the Committee are informed that 'the matter has not been considered yet'.

10.6. The Committee reiterate their earlier recommendation and suggest that Government should consider this matter from the point of view of improving the functioning of the Corporation. The Committee would like the Government to strengthen the Board of Directors by inclusion of knowledgeable, non-official of standing to the extent of 50 per cent in the interest of better management of this premier national undertaking which is expected to play a vital role in supplying machinery and equipment for the new steel plants and for the expansion of the existing ones.

C. Chairman

10.7. The following is the list of Chairmen since the inception of HEC and the period of service rendered by them.

Sl. No.	Name	Date of joining	Date of cessation	Remarks
I. Chairman				
1.	Dr. A. Nagaraja Rao ..	28-1-1959	24-2-1964	
2.	Sri H. V. Narayana Rao ..	24-2-1964	24-3-1964	
3.	Sri T. R. Gupta	24-3-1964	7-10-1967	During the intervening period Shri A. C. Bhatla F.A. & CAO of HEC performed the current duties of Chairman.
4.	Shri K. D. Malaviya ..	23-2-1968	4-1-1969	
5.	Sri Ranchor Prasad ..	14-1-1969	27-4-1969	
6.	Sri C. Chalapati Rao ..	27-4-1969	30-9-1970	
7.	Sri S. S. Jagota	6-11-1970	24-11-1971	

10.8. The Committee regret to note that due to frequent changes in the top Management, the production in the Plant suffered considerably. The Committee therefore recommend that as far as possible there should be continuity in the top Management. Now that the Government have a full time Managing Director, Government should consider whether he should also be vested with the duties of Chairman.

D. Staff Position

10.9. The Statement below gives the Category-wise position of the Staff requirement and actual persons in position :

Project	Staff requirement as per organisation manual	Actual person in position as on 31-12-70
1. *Foundry Forge Project*		
(a) Officers	545	653
(b) Staff & Workers	7528	6312
TOTAL	8073	6965
2. *Heavy Machine Building Project* *		
(a) Officers	829	861
(b) Staff & Workers	5896	5522
TOTAL ..	6725*	6383
3. *Heavy Machine Tools Project*		
(a) Officers	512	127
(b) Staff & Workers	1333	1038
TOTAL	1845@	1165

*Includes Structural Fabricaton Workshop (DPR).

@Figures as per DPR.

1	2	3
4. *Headquarters*		
(a) Officers }		385
(b) Staff & Workers }	Not assessed	2684
(c) Apprentices	—	90
TOTAL	—	3156

Note—1. The above figures exclude the Muster Roll workers employed in different Department.

10.10. The Committee enquired whether any investigation had been made by an expert outside agency for determining the actual requirement of the Corporation. In a written reply, the management have stated that "A complete section-wise analysis has now been taken in hand under the overall guidance of whole time Indian Consultants. This analysis is being done as a prelude to introducing of incentives."

Abosrption of construction staff

The Committee enquired as to what policy was being followed by the Management with regard to the absorption of surplus construction staff. In a written reply, the management have furnished the following information :—

"The total strength of civil engineering personnel as on date in H.E.C. is 350 from the rank of Chief Engineer down to that of "Sub-Overseers" in the construction side and "Draftsman" in the "design side." Out of this, the internal requirements of HEC would eventually not exceed 150 at the most.

Eventually therefore 200 men have to find alternative berths. Management is encouraging them to resign and seek other jobs, and also absorbing them in other indirect activities within H.E.C. Interviews etc. are being arranged to divert them to other Public Sector Enterprises such as HSCL, EPIL, etc.

There is regular depletion of civil engineering personnel from HEC through resignations."

Shortage of trained workers

The Committee enquired whether there was any shortage of trained men particularly at the supervisory level and on the designing side, if so, what was the number of trained persons enquired and the number of persons actually trained? In reply, the management have furnished the following information :—

"There is a shortage of trained men particularly at the supervisory level in all the three projects. Details of supervisory personnel required/sanctioned for each project and persons in position is given below :

Foundry Forge Project	Upto date release from III/I stage	In position
Officer in the scale of Rs. 480-1100 & above ..	510	281
Other supervisory personnel	629	546
	1139	827

Out of the above, about 100 persons received specialised training after joining F.F.P. or had previous specialised training. The rest were recruited fresh from the educational institutes and are picking up their trades on the job.

II. H.M.B.P. (including SFW, CCW & other Sanction)

	Sanctioned as per DPR & other sanction	In position
(*i*) Officer in the scale of Rs. 480-1100 & above		
Plant & preparatory Department	548+51	381
Design	461+94	191
	1009+145	572
(*ii*) Other supervisory personnel		
Plant & preparatory Department	524+94	475
Design	158+35	111
	682+129	586"

10.13. The Managing Director further stated "there is a considerable shortage. This shortage was in regard to manning of equipment and availability of trained people. So, we are progressively recruiting more people every year and filling up vacancies. Over a period of about six years, we shall eliminate this shortfall."

10.14. The Committee pointed out that the Corporation was having a surplus staff. They asked why the surplus staff was not being imparted training.

The Managing Director stated that "there are two types of workers—direct and indirect. Unfortunately, in India, we employ much more indirect workers. So, by and large, we get a large number of indirect workers and that is why there used to be some surplus staff, which is much more than the foreign countries are using."

10.16. The Committee note that against the requirement of 545, there are as many as 653 officers in Foundry Forge Project and similarly in Heavy Machine Building Project there are as many as 861 as against the requirement of 829. The Committee consider that as neither the Foundry Forge Project nor the Heavy Machine Building Project is anywhere near optimum utilisation, there should have been no question of employing officers even to the extent laid down in the Organisation Manual. In fact the Committee would have expected that the appointment of officers as well as staff and workers would be so phased out as to synchronise with the progress of manufacturing operations. The Committee consider that if strict scrutiny had been exercised in the case of appointment of officers, it would have been easier to enforce the same discipline in the case of appointment of staff and workers.

10.17. Another factor to which the Committee desire to invite special attention is the extraordinarily large number of staff which are employed in the Headquarters of the organisation which incidentally is situated in the same place as the three Workshops. The Committee can see little justification for having as many as 385 officers and nearly 3,000 supporting staff for

the Headquarters organisation. The Committee consider that in all those public undertakings which are engaged in manufacturing operations, the accent should be on appointment of production staff and reduce the burden of indirect workers and officers. The Committee would, therefore, strongly recommend that Government/HEC should critically examine the organisational set up in the Headquarters with a view to re-organise it on functional lines and affect maximum economy in officers and staff so as to act as a model organisation for others to follow.

10.18. The Committee are greatly concerned to find that in a key sector like Design in Heavy Machine Building Plant there is shortage to the extent of 364, as only 191 officers were in position as compared to the sanctioned strength of 555. The Committee are not able to appreciate why the HEC/Government have not paid special attention to this aspect in order to get as many persons as necessary trained either in India or abroad so as to become self-reliant in this key sector. The Committee would like Heavy Engineering Corporation/Government to prepare a time bound programme for training of officers in Design and other connected works so as to attain self-reliance at the earliest.

10.19. The Committee are greatly concerned to find that while the utilisation of Foundry Forge Project and Heavy Machine Building Project has only been to the extent of 30% or less, the staff has been appointed in almost full strength. The Committee cannot too strongly stress that there should be proper planning in the matter of employment of officers and workers to ensure that they synchronise with the physical and actual progress made in establishing production.

10.20. The Committee would also like to stress that yardsticks for employment of staff should be evolved most carefully right in the beginning so that there is no question of later taking the plea that the staff in position are greatly in excess of requirements and therefore it is not possible to get either optimum production or results.

10.21. The Committee also need hardly point out that incentive system of wages should be introduced right from the beginning after most careful study and in consultation with the workers so that there is in-built incentive for increasing production and efficiency.

10.22. The Committee attach great importance to the organisation of training courses for workers and officers at various levels so as to give them a feeling of acquiring knowledge relevant to their vocation which would qualify them for promotion.

10.23. The Committee also attach great importance to the organisation of refresher courses so that the knowledge of workers is kept up-to-date by exposing them to the latest developments and techniques of production. The Committee would stress that organisation of training courses/refresher courses should receive special attention of the Personnel Department as well as of top management so as to see that not only these courses are organised in a manner to best serve the interest of the industry but also to make for enthusiastic and willing participation by workers and officers at all levels.

E. Industrial Relations

10.24. There are 7 registered Trade Unions functioning in this organisation at present, which are affiliated to various All India Trade Union organisations with different political ideologies, except two Unions who claim

to hold independent views. Two more trade unions are operating in this area, who are understood to have been registered by the Registrar of Trade Unions, Bihar, but there is no official confirmation to this effect, although a reference has been made by the Corporation to the State Labour Departments to confirm the position, which is still awaited. Out of the above registered Unions, Hatia Projects Workers' Union affiliated to INTUC has been recognised by the Management. So far as the staff of the Calcutta office are concerned, the Management has recognised the H.E.C. Employees' Welfare Association, Calcutta.

10.25. In a written reply the management have informed the Committee that :—

> "For quite some time the labour management relation has not been cordial as it should have been due to inter-union and intra-union rivalries. There has been frequent demonstrations leading to work stoppages and gherao, etc. and as such the industrial relation has been affected."

10.26. The total man hours lost due to strikes and lock-outs for the year 1968, 1969 and 1970 are as follows :

1968	2172	mandays
1969	36973	mandays
1970	3226	mandays

10.27. The Committee understand that the multiplicity of trade unions has led to inter-union rivalries adversely affecting industrial relations. The Committee also find that for quite some time the labour management relations had not been cordial. There had been frequent demonstrations, leading to work stoppages and gherao etc. and as such the industrial relation and hence the production in the plants had been affected. The Corporation had lost 2172 mandays in 1968, 36973 mandays in 1969 and 3226 mandays in 1970.

10.28. The Committee have dealt at length with the problem of management workers relations in their Report on 'Personnel Policies and Labour Management Relations in Public Undertakings' and would like to reiterate that the Corporation should spare no efforts to give the workers in the Undertaking a sense of participation and involvement in the challenging task of greater production for the good of the country. All disputes should be resolved through mutual discussion in order to come to an agreement.

Employment of Chief Security Officer as Controller of Stores

10.29. In his Report on the second fire accident in HEC in January, 1964, Justice Mukherjee commented adversely about the security arrangement of the Corporation. The Chief Security Officer of the Corporation was also adversely commented in the Report of Justice Mukherjee. The then Chairman of the Corporation had therefore reported to the Government on 15th February, 1965 that the Chief Security Officer would be relieved from the services of the Corporation as soon as an officer of the IPS from the Bihar Cadre was made available. Although an IPS officer joined the Corporation, on the 8th July, 1965, the Chief Security Officer continued to work on his post upto January, 1967, and was thereafter appointed as Controller of Stores in Foundry Forge Plant. The Ministry were, however, not informed of this change in the decision of the Corporation to relieve the Security Officer.

10.30. The Committee on Public Undertakings (Fourth Lok Sabha) in para 124 and 125 of their 14th Report on Heavy Engineering Corporation Ltd., observed as follows :—

"The Committee are constrained to observe that in spite of adverse comments made in a Report by an independent Enquiry Committee against the Chief Security Officer and even after the Corporation had made a commitment to the Government in February, 1965 that the Chief Security Officer would be relieved from the services of the Corporation, he was in fact placed in a position with higher responsibility instead of being relieved from service. The change in decision about him was not even communicated to the Government. The Committee take a serious view of the scant regard paid by the management to the observations in the Report of an independent Enquiry Committee.

The Committee also regret to note that the Government did not keep a watch on the actual implementations of the commitment made to them in this regard. They desire that the matter should be examined by the Ministry and suitable action taken."

10.31. In their replies to the above observations/recommendations dated 9-1-69 and 12-9-69, the Government stated as under :—

"After the fire incident of 1964, the Chief Security Officer had to continue for some time to give necessary assistance in reorganisation work to the Security Adviser of the Company and then to Chief of Security Division.

Security Adviser, Government of India, under whose close supervision the reorganisation work was being carried out, had advised the Corporation to retain the Chief Security Officer as second-in-command even after joining of the Chief of Security Division.

Chief Security Officer's record of service has been good both before and after the fire incident of 1964. Security Adviser and Chief of Security Division, HEC under whom Chief Security Officer worked after the fire incident, left a very good record about his work and conduct.

It is true that after the fire incident of 1964, it was decided to relieve the Chief Security Officer from HEC but in view of subsequent developments mentioned above, and the fact that Chief Security Officer was only an officer in the hierarchy who had to depend on top management policies regulating the functions, strength and equipments of the organisation, it was felt that ends of justice will be met if he was transferred outside the security organisation. Taking into consideration his past experience in Stores work in Defence Services, on the recommendation of General Manager, Foundry Forge Project, he was transferred to that Project as Controller of Stores without any raise in his status or emoluments. This transfer has not resulted in any promotion to him as implied in the Report of the Committee on Public Undertakings.

It is true that in a letter to the Ministry written in February, 1965, the Chairman of the Company had stated that the Chief Security Officer would be relieved from the services of the company as soon as an officer of the Indian Police Service from the Bihar cadre was available. However, subsequently the company decided that, considering all the circumstances of the case, removal from service of the officer was not justified and that it would be adequate if the officer was transferred from

the Security Division. It may also be pointed out that the strictures made in the report of Justice Mr. B. Mukherjee about the functioning of the Security Department were in themselves not considered as sufficient grounds for dispensing with the services of the officer. It was for the company as the employer to take a decision on the basis of these structures. It was, however, not quite correct for the company to have changed their earlier view about removal of Chief Security Officer without informing the Government."

10.32. The Committee enquired in May, 1970 from the Ministry at what level the decision was taken for not removing the Chief Security Officer from service and who was responsible for not informing the Ministry about this change from the earlier decision. They enquired whether this had been investigated. If so, with what results and whether any responsibility had been fixed in this regard.

10.33. In their reply dated 9th July, 1970, the Ministry stated as under :—

"The decision for not removing the Chief Security Officer from service was taken at the level of Chairman. The Company apparently considered that the transfer of the Officer from one project to other was an internal arrangement and that a formal reference to Government, was not necessary. The question as to who was responsible for not informing the Ministry about the change from the earlier decision has not been investigated as this has not been considered necessary."

10.34. Subsequently, in their reply, dated 9th July, 1971, to another question the Ministry stated that "even though it would have been appropriate for the Corporation to keep Government informed of the change in their view, the matter was within the competence of the Corporation and as such, there was no case for any action being taken by Government in this regard."

10.35. The Committee are surprised to find that though the Corporation decided to relieve the Chief Security Officer on the basis of adverse comments made by Mr. Justice B. Mukherjee in his Report on the second fire accident in HEC in January, 1964, subsequently the Chief Security Officer was transferred to the stores organisation of the Foundry Forge Plant and the Ministry were not even informed about this change in the decision. The Committee on Public Undertakings and their 14th Report on HEC Limited desired that the matter should be examined by the Ministry and suitable action taken. The Ministry have, however, held that it was within the competence of the Corporation to transfer the officer from one project to another.

10.36. The Committee do not share the opinion of the Ministry in this regard. The Committee would like to invite the attention of the Government to the recommendation/observation of the Committee contained in para 125 of their 14th Report on Heavy Engineering Corporation Ltd., where it was suggested that whenever special Enquiry Committees are set up by Government, the action taken on the observations/recommendations of such reports should be watched by the Ministries concerned. In reply to this recommendation Government have stated that "necessary instructions had been issued to the administrative Ministries/Department as desired by the Committee."

10.37. The Committee reiterate that it was highly improper on the part of the Corporation to appoint the Chief Security Officer as Controller of Stores without informing the Government.

XI

TOWNSHIP

A. Deficit in Running the Township

11.1. The net Township Losses excluding out & depreciation during 1970-71 are indicated below :—

(Rs. in lakhs)

	Expenditure	Income	Net
1. Expenditure towards maintenance of Township	83·96	55·58	28·38
2. Expenditure on running Hospital	39·22	0·66	38·56
3. Expenditure on running School	8·71	1·68	7·03
4. Expenditure on Horticulture and Farming	1·85	0·31	1·54
5. Grant of Sports Clubs & Cultural Organisation	0·37	—	0·37
TOTAL	134·11	58·23	75·88

11.2. In a written reply, the Management have stated that "It has been already decided by Government that capital expenditure incurred for township should be met of share capital. Up to the end of '70-71, we have not been able to implement this. Every effort is being made to get the project cost of township approved by Government and to treat the capital expenditure incurred in respect of township as share capital."

B. Improper maintenance of estate office records

11.3. A review of the house cards maintained by the estate office indicated that in most of the cases, particulars regarding dates of occupation/vacation and emoluments drawn by the incumbents had not been noted therein. Besides, demand registers for watching the recovery of rent were not maintained properly. The figures appearing in the demand registers were also not reconciled with those appearing in the financial books.

11.4. The lack of proper maintenance of the records resulted in under-recovery of rent to the extent of Rs. 1.09 lakhs in certain cases which were noticed by Audit and pointed out to the Management in February, 1967.

11.5. It is understood from Audit that a test check of some of the house cards indicated that in certain cases the dates of completion, occupation and vacation are still not being noted. While the emoluments drawn by the allottees at the time of occupation are indicated in these cards, subsequent changes as a result of increment or promotion are not recorded.

11.6. The demand registers are not maintained properly even now. The rent actually recovered is noted in these registers but rate at which it is recoverable and the amount due in a month are not recorded. As a result the rent recovered cannot be checked with the rent due.

11.7. In this connection reference is also invited to note 10(a) of the notes forming part of the Balance Sheet of the Township as at 31-3-1970 which reads as follows :—

"(a) The rent account could not be fully reconciled with the rent recoverage as per quarters Register. However, reconciliation is in progress and adjustments, if needed, will be made next year."

11.8. Further, the Company Auditors in their report to the Board of Directors on the accounts for 1969-70 observed as follows :—

"It is observed that the assessment and recovery of rent offered much scope for improvement. There appears to be complete lack of internal control and check in realisation of the rent in as much as proper records are not being maintained showing the rent assessed, collection made there against the balance outstanding."

11.9. The Committee enquired whether the scrutiny of the rent cards with reference to the under recovery statement had since been completed and what were the reasons for not maintaining proper records for watching the recovery of rent even after a lapse of about 4 years from the date the defects were brought to their notice by Audit. In a written reply, the Management have stated as under :—

"The scrutiny of rent cards with reference to recovery statements has since been completed. Out of a sum of Rs. 1.09 lakhs, a sum of Rs. 92,007/- has been recovered and the balance of Rs. 16,923/- is under process of recovery.

In the initial stages the records were not properly maintained due to inexperienced staff posted. It has since been rectified and the records brought up to date."

C. Delay in the Allotment of Quarters

11.10. There was considerable delay in the allotment/occupation of quarters after their completion in permanent township at Ranchi. Allowing one month's time as the reasonable period for observing all the formalities for allotment and occupation of the quarters, the loss of rent in respect of the quarters on the basis of 10 per cent, of the average of the pay ranges of officials to whom these were to be allotted worked out to Rs. 2.94 lakhs approximately.

11.11. Besides, 216 quarters of B and C/D type had been lying vacant since their completion between April, 1965 and June, 1966. The total vacancy period up to the above date came to 2,644 months and the loss of revenue on this account worked out to Rs. 1.56 lakhs approximately.

11.12. The Ministry informed Audit in February, 1968, as follows :—

"(a) There were delays in the allotment of 'C/D' type quarters in Sector III because initially certain fittings such as, air conditioners, geysers, etc. had to be installed to make these convenient for the experts. Later on, a decision was taken to accommodated the experts elsewhere. Pursuant to this decision, certain additions and alternations had to be made in those quarters to make these suitable for Indian Employees.

(b) The allotment orders in respect of certain 'E' type quarters had to be issued and cancelled because the allottees failed to occupy them within the specified time and these quarters had to be re-allotted to two to three persons after cancelling the earlier orders.

(c) The non-allotment of 'B' permanent and 'C/D' type quarters in Sector II was due to want of entiled persons."

11.13. The Ministry have further added that "following are some of the steps that have been taken with a view to reducing losses arising on account of houses remaining vacant." :—

(a) Further construction work in the township has been stopped.

(b) Certain vacant houses are expected to be occupied when the construction of Diesel Engine Factory is taken up.

(c) Certain houses are likely to be allotted to the staff of the Foundry Forge Institute which will be set up at Ranchi shortly.

(d) The staff who are now living at Ranchi are being encouraged to occupy houses in township.

11.14. In a written reply, the management have now informed the Committee that there are no vacant quarters lying for allotment except those reserved for 'minority community'. It has been added that "Now the allotment committee meets twice a month and there is no delay in allotment."

11.15. The Committee find that the Corporation incurred a net loss of Rs. 75.88 lakhs in one year (1970-71) in running the township. The Committee feel that the loss in maintaining the township is rather on the high side and steps should be taken to reduce the loss by raising the income on township, and adopting suitable measures to effect economy consistent with efficient service. The Committee share the views of Audit that in maintenance of records for assessment and recovery of rent leave there is much scope for improvement. The Committee stress that loss due to lack of maintenance of the records and due to delay in the allotment of quarters should be avoided.

11.16. The Committee find that in 1970-71, the expenditure in running the hospital was Rs. 38.56 lakhs. This appears to be on the high side. The Committee would suggest that the working of the hospital should be got examined by an expert body with a view to effecting economy wherever possible consistent with maintenance of reliable medical and hospital assistance to the employees.

XII

CONCLUSION

12.1. The Heavy Engineering Corporation Ltd., Ranchi was incorporated on 31st December, 1958 under Companies Act, 1956 in the State of Bihar to develop the manufacture of heavy equipments in the country.

12.2. In view of an ambitious programme of development of iron and steel industry in India in the 2nd, 3rd, 4th and subsequent Plan periods, there was a great need for India becoming self-sufficient as early as possible in the manufacture of heavy machinery and equipment particularly those required by the steel Plants. Government decided in April, 1960 to set up with technical collaboration and credit assistance of the USSR the Heavy Machine Building Plant, with a capacity of 80,000 tonnes per annum.

12.3. A Foundry Forge Plant was set up mainly to meet the requirements of castings and forgings of Heavy Machine Building Plant and also Heavy Machine Tools Plant.

12.4. The Project Report indicates the following rated capacity of the Foundry Forge Plant :—

(a) Grey Iron and Non-ferrous Foundry ...	39,760 M. tons (II Stage) 40,000 M. tons (III Stage)
(b) Steel Foundry	66,000 M. tons (II Stage) 1,45,000 M. tons (III Stage)
(c) Forgings	27,700 M. tons (II Stage) 69,700 M. tons (III Stage)

12.5. In November, 1960, the Heavy Engineering Corporation was entrusted with the execution of Heavy Machine Tools Plant for the manufacture of diverse items of heavy tools starting with 10,000 tons per annum in the first stage and to be ultimately expanded to 20,000 tons in the second stage.

12.6. The following is the capital structure of the Corporation as on 31st March, 1971 :—

(Rs. in crores)

(*i*) Authorised Capital	100·00
Paid-up Capital	100·00
(*ii*) Unsecured loans from Government (including Rs. 1·1 crore for working capital).	145·75
(*iii*) Deferred Credit	15·47
Total loans/deferred credit ..	161·22
Equity—Loans	1 : 1·61

12.7. The Committee find that the question of changing the equity debt ratio has been pending with the Government for about 8 years. They

recommend that after examining all the financial implications the Government should finalise the capital structure of the Corporation without any loss of time.

12.8. The Committee also find that it took the Corporation and the Ministry almost ten years to finalise the capital estimates of the various projects of HEC. The estimates for township and 'common charges' are yet to be finalised by them. The Committee feel that it is unfair to the Parliament and to the country to make them commit to a project on a piecemeal basis from year to year without giving a true and realistic picture of the final cost of the project. The Committee would like to strongly re-emphasise and reiterate what has been stated in the 51st Report of the Estimates Committee (1963-64) that the total commitments on such projects should be prepared as realistically as possible in the beginning and should be available to Government and Parliament before a project is approved so that there is proper and effective control on the finances of the Company. The Committee recommend that all the procedural delays should be investigated and responsibility fixed for the various lapses which have caused the delay in the sanction of the estimates.

12.9. The Committee find that the delay in the erection and commissioning of the project has considerably lengthened the gestation period of HEC resulting in considerable loss in production. The cost of construction went up as a result of delays. The rate of build up of production capacity in the Heavy Machine Building Plant and Heavy Machine Tools Plant and also the production in FFP had been affected due to delay in the erection and commissioning of the Foundry Forge Plant. The Committee regret that although the information about delay came to the Ministry through periodical reports on progress of construction and through quarterly financial reviews, the Ministry did not take any effective action.

12.10. The Committee take a serious note that neither the Corporation nor the Ministry have assessed the total loss suffered by the Corporation as a result of delays in the erection and commissioning of the Plant. They recommend that the Ministry/Undertaking should find out the total loss incurred by the Corporation as a result of delays, the extent to which delay could have been avoided and to as certain as to the precise causes responsible for not taking timely action.

12.11. The Committee regret to note that the Project Report did not indicate the build-up of capacity from year to year and almost every year a new exercise is being done to determine the build up of capacity. The Committee are of the opinion that a realistic assessment of build up of capacity should have been done at the very inception and if it was revised subsequently, the reasons therefor and the concrete action taken to obtain the rated capacity, should be contemporaneously brought on record in the form of memorandum for the consideration of Board of Directors. Government should be kept contemporaneously informed of the position. The Committee recommend that Government should ensure that the Project Reports for Plants to be set up in future should indicate the gradual build-up of the capacity of the Plants from year to year.

12.12. The Committee are concerned to find that only 10 to 25% of the capacity of the plants had been utilised and because of organisational failures the Corporation had to off-load to ancillary industries/sub-contractors even

heavy structurals, castings and forgings in order to meet the commitments already made. The Committee desire that constant efforts should be made to see that off-loading is avoided as far as possible and only such items are off-loaded which are clearly outside the profile of H.E.C. or where it is in the overall interest of the Corporation and industrialisation policy to get them manufactured in ancillary units.

12.13. The Committee express their deep concern about the delay in the execution of orders by HEC which has resulted in "serious delays in commissioning of various projects" both in the public and private sectors. "No assessment of the exact impact of such delays has been made" either by the Ministry or by the Management. Though the Committee on Public Undertakings (1967-68) had recommended that the Corporation should take immediate steps to ensure adherence to the delivery dates, the Management admitted that there were still delays in the execution of orders because of low productivity, poor maintenance and unsatisfactory supply of materials.

12.14. The Committee note that delay in execution of work in Foundry Forge Plant is the major contributory factor for the delay in the execution of orders in H.E.C.

12.15. The Committee note that in spite of the recommendations of the technical experts to improve the working of FFP the position has not substantially improved. As the FFP holds key to production in the entire complex the Committee feel compelled to recommend that the position should be reviewed at the highest level and a task force entrusted with the responsibility of bringing up the production in FFP to the level required for meeting adequately and in time the requirements of Forgings and Castings etc. The Committee would like to be informed of the improvements affected within three months.

12.16. The Committee are constrained to observe that Heavy Engineering Corporation have not been able to meet in full the orders for equipment and machinery required for the Bokaro Steel Plant. The Committee view with concern that the extremely unsatisfactory trends in the supply of equipment and structurals to Bokaro Steel Ltd. by the Heavy Engineering Corporation Ltd. seriously affected the erection programme of the Bokaro Steel Ltd. and recommend that Government should immediately make an overall assessment regarding the actual supplies made by HEC *vis-a-vis* those scheduled for delivery and take appropriate steps either for the manufacture of the components in the country or for importing them consistent with the production capacity of the HEC.

12.17. The Committee see no reasons why Heavy Engineering Corporation should not be able to pick up the work to its full capacity in the next two or three years and provide to the maximum extent possible indigenous equipment and machinery for meeting the expansion requirements of Bokaro and other steel plants and the setting up of three new steel plants.

12.18. The Committee are surprised to find that a sum of Rs. 286.63 lakhs has been paid to Bokaro Steel Ltd. in respect of design documentation without even ascertaining whether the cost is payable at all. Out of the said sum a total expenditure of Rs. 122.94 lakhs was incurred for design documentations which were either already in possession of the Corporation or which were

not at all utilised as components/completing equipments for which the design documentations were meant, were actually imported. The Committee are of the opinion that the loss incurred by the Corporation on the procurement of design documentations was due to lack of adequate coordination between the Bokaro Steel Ltd. and H.E.C.

12.19. The Committee would like Government to probe into the matter of import of design documents in order to find out the extent to which the import of design documents, for which large amounts have been paid, was avoidable and has proved infructuous. The Committee recommend that Government should take steps to avoid such losses in future. The Committee would also like Government to issue detailed instructions to public undertakings in the light of this experience so that no omnibus commitments in respect of design documents is entered into which obliges an Undertaking to import designs and drawings irrespective of their need.

12.20. The Committee find that the Corporation decided to undertake the manufacture of some of the major items like 4.6 cu.m. excavators, charging box-cars, drilling rigs, derrick mast etc. without any proper planning. The ill-planned production has resulted in considerable loss to the Corporation. The Committee view with concern the lack of planning and undue haste in taking up manufacture operations and sinking large amounts without a proper market survey of potential customers, resulting in blocked capital and losses to the Corporation.

12.21. The Committee recommend that all such cases where manufacture of items had been taken up in anticipation of orders or grossly in excess of orders in hand should be carefully investigated and responsibility fixed. The Committee suggest that Government should also issue suitable guidelines as to avoid such lapses in future.

12.22. The Heavy Engineering Corporation incurred an expenditure of Rs. 11.23 lakhs by way of engaging two foreign consultancy firms to prepare quotations for Bailadila and Kiribru projects on turn-key basis. The Committee note that ultimately the decision at Government level was that the role of Heavy Engineering Corporation should be limited to that of supply of equipment and machinery only. The Committee would like Government/Heavy Engineering Corporation to learn a lesson from those instances and lay down clear guidelines so that no premature action is taken to engage the services of foreign consultants at heavy cost when in the last analysis their services are hardly required resulting in unfruitful expenditure.

12.23. The Committee note that the Detailed Project Report had prescribed norms of rejection for shapped castings, ingot moulds, G.I. rolls and on the basis of these norms it has been worked out that the excess rejections for the years 1964-65 to 1968-69 amounted to Rs. 22.44 lakhs. In view of the heavy amounts involved in these rejections, the Committee would stress the need for taking remedial measures to see that the percentage of rejections is immediately brought down within the norms envisaged in the Detailed Project Report and in fact it should be possible to further reduce the incidence of these rejections by improving quality of materials and production and by imparting training to workers and supervisors at all levels.

12.24. The Committee note that the Detailed Project Report did not lay down the percentage of rejection for several other categories of manufacture which are now being undertaken in the Corporation. The Commitee would

like the Corporation to lay down strict norms for these rejections so that it is possible to evaluate the performance and take necessary remedial measures to reduce losses on account of rejections.

12.25. The Committee recommend that the quality control and inspection in all the units should be improved so as to obviate the complaints from customers regarding the quality of products manufactured by the Corporation and win the confidence of the customers by supplying flawless quality equipment and machinery.

12.26. The Committee take a serious not of the fact that no record was maintained to indicate the utilisation of machines and labour in any of the main production shops of the Foundry Forge Plant. Records maintained in the Heavy Machine Building Plant were not found to be proper.

12.27. The Committee cannot too strongly stress that not only proper records of idle labour hours and idle machine hours should be kept but that these should be systematically analysed with a view to take timely action to eliminate such wastage of productive resources.

From the available records the Committee find that utilisation of labour and machine hours in all the plants of Heavy Engineering Corporation was much below the total hours available. The Committee are shocked to find that in spite of their highlighting in their 14th Report on Heavy Engineering Corporation Ltd. (presented in April, 1968) that the machines were not being put in use for want of trained operators, this handicap continuous to persist and accounts for idleness of machines to the extent of about 29% (HMBP) in 1970-71. The Committee are baffled by shortage of trained personnel on the one hand and idle labour hour on the other. Obviously there has been no purposeful effort to utilise the available manpower for productive purposes, otherwise they can see no reason why it was not found possible during all those four years to train up adequate number of persons in the duties of operators.

12.28. The Committee reiterate that the Corporation should work out and introduce without further loss of time an incentive scheme in consulation with expert and workers' representatives so that there is in-built incentive for greater production.

12.29. The Committee are greatly concerned to find that while the utilisation of Foundry Forge Project and Heavy Machine Building Project has only been to the extent of 30% or less, the staff has been appointed in almost full strength. The Committee cannot too strongly stress that there should be proper planning in the matter or employment of officers and workers to ensure that they synchronise with the phsycial and actual progress made in establishing production.

12.30. The Committee stress that organisation of training courses/ refresher courses for workers and officers at various levels should receive special attention of the Personnel Department as well as top management so as to see that not only these courses are organised in a manner to best serve the interest of the industry but also to make for enthusiastic and willing participation by workers and officers at all levels.

12.31. The Committee find that the costing system followed by the Corporation suffered from various deficiencies. They find that no cost accounting manual had been prepared; no detailed cost estimates were being prepared

before undertaking the job fixed and variable expenses were not recorded separately; no job analysis had been made to fix the norms for labour requirement. In these circumstances, the Committee feel that the system of cost accounting and cost control as prevailing during the last 8 years or so was neither scientific nor effective.

12.32. The Committee find that the actual cost of production in all the plants of HEC was considerably in excess of the estimates given in the DPR. Low productively, high cost of materials and wage rise without commensurate rise in productivity are given as some of the reasons which have resulted in the high cost of production. Except in the case of a few items, the cost of production in the case of major items of production exceeded even the sale price. The Committee further note that, in making the cost analysis, overhead expenditure as applied to various jobs had only been taken into consideration leaving substantial portion of overheads unabsorbed. The Committee find from the review of some of the cases that the Corporation incurred a substantial loss as a result of quoting prices much below the cost of production.

In case the Corporation has to be a viable unit it must reduce substantially its cost of production. The Committee on Public Undertakings (4th Lok Sabha) in their 14th Report on Heavy Engineering Corporation had recommended that "Concerted efforts should be made by the management to reduce the cost of production through improved productivity and reduction of inventories, wastages of materials, and better utilisation of men and machinery." The Committee, deplore that nothing substantial has been achieved by the Corporation in this direction.

12.33. The Committee are greatly distressed to find a large number of cases of defective and ill-planned purchases resulting in loss of several lakhs of rupees to the Corporation, due to defective procurement and purchase procedure. The Committee would, therefore, stress that all cases of irregularities in stores should be closely analysed with a view to identify the short comings and deficiencies in the procedure and to rectify the same without delay.

12.34. The Committee would also like the administrative Ministry and the Bureau of Public Enterprises to take special interest in the matter of stores management for the Committee have come across all too frequently such cases of defective and ill-planned purchases which are symptomatic of a deeper malady. Government should ensure that officers who are initially put in charge of stores and procurement are persons of experience and proven integrity so as to give a sound start in the matter of inventories and procedures for purchase etc. to the Undertaking.

12.35. The Committee recommend that concerted efforts should be made to bring down inventories to reasonable limits so as to avoid unnecessary locking up of working capital in inventories and considerable loss to the Corporation resulting in high cost of production.

12.36. The Committee on Public Undertakings during their examination of Heavy Engineering Corporation Ltd. in 1967-68 were informed that by 1970-71 there would be an accumulated loss of about Rs. 20 crores and it would take the Corporation about 3-4 years to wipe off the losses. The Committee felt unhappy and observed that the expected profitability of the plants was very low. The Committee now find that even the low expectations of the Ministry have been totally proved to be erroneous. The actual accumu-

lated losses (Rs. 73 crores) by 1970-71 are three and a half times more than that earlier expected. The Committee are deeply concerned at the huge loss suffered by the Corporation since its inception. According to the forecast furnished by the management the Corporation is likely to suffer losses to the tune of Rs. 23.5 crores during the next two years, although these forecasts are only tentative. The actual losses are likely to be much more as according to the latest assessment of the Ministry the year of break-even point has been shifted from 1973-74 to 1974-75. The Committee feel that at this rate Corporation is likely to wipe out all its paid up capital in the next two years.

12.37. The Committee highly deplore that the Project Report does not include any realistic assessment as to when the Corporation was likely to breakeven. All the exercises made so far differ widely from each other. The break-even point is being shifted from year to year by bringing down the likely production and the sale value thereof. From the studies made so far it is difficult to know as to what are the actual orders anticipated and whether the Corporation would really break-even within any reasonable measure of time. The Committee would suggest that the management should intensify the effort to increase production, ensure timely delivery and reduce their costs and over-heads by improving productivity and affecting economy.

12.38. The Committee are forced to the conclusion that the Heavy Engineering Corporation have suffered mainly because they have lacked an organisational set-up which could bring up in an integrated manner the three complexes of Foundry Forge Plant, Heavy Machine Building Plant and Heavy Machine Tools Plant which constitute the Heavy Engineering Complex.

12.39. The Committee are greatly concerned to note that the Heavy Engineering Corporation particularly the Foundry Forge Plant and Heavy Machine Building Plant are still lacking in firm orders on long term bases which alone can ensure development and production on an assured and rational basis.

12.40. The Committee welcome the steps taken recently by Government to standardise the machinery and equipment required for setting up new steel plants and for expansion of the existing steel plants. With the standardization of machinery and equipment, it should be possible to make use of the capacity available in the Heavy Engineering Corporation to the maximum extent in the interest of achieving self-reliance. Considering the fact that the responsibility for steel plants as well as for Heavy Engineering Corporation are placed under the same administrative Ministry, the Committee have no doubt that Government would take necessary measures including the setting up of Task Forces to sort out in detail, the requirements of machinery and equipment for the new steel plants and expansion of existing ones in order to place long term firm orders on Heavy Engineering Corporation.

12.41. The Committee need hardly stress that once orders are placed on Heavy Engineering Corporation, the Corporation should spare no efforts to see that machinery and equipment of guaranteed quality which would make for most efficient production are turned out and delivered according to schedule. The sale price for these machinery and equipment should become increasingly competitive with increased turn-over.

12.42. The Committee have been informed that the Ministry/Management have taken a number of measures such as reorganisation of the manage-

ment at the higher level, Introduction of Incentive Scheme, improvement in the costing system etc. by bringing about improvement in the functioning of the organisation they hope to increase productivity and production.

12.43. The Committee find that the Ministry have already taken action in organising Task Forces to tackle systematically and earnestly the problems of Heavy Engineering Corporation. While the Committee appreciate the determination with which the problem of putting to full utilisation the capacity in Heavy Engineering Corporation is being tackled of late, they feel that these efforts would have to be sustained over a number of years till all the teething troubles of the plants are overcome. Above all, the management and workers should show a sense of unity of purpose and dedication in stepping up productivity and production of this crucial heavy engineering sector project. The Committee recommend that Government should keep an unremitting watch on the utilisation of capacity of the plant from quarter to quarter and year to year so as to ensure that there is no slackening of efforts at any time and at any level so that the full rated capacity of the Corporation, which has been set up with such large investment of the nation, is put to effective use at the earliest.

12.44. The Committee hope that with the effective implementation of the measures initiated by Government, the HEC would be able to improve production, procure greater number of orders, adhere to delivery schedules effect economies and arrest losses.

M. B. RANA
Chairman,
Committee on Public undertakings.

NEW DELHI;
April 26, 1972
Vaisakha 6, 1894(*s*).

APPENDIX I

(*Vide* para 2·5, page 17 of the Report)

Statement showing the various stages of Project Estimates in respect of each Project of HEC from the time a complete proposal from the Company was received to the time of issue of final sanction by Government.

Foundry Forge Plant

1.	First estimate of capital cost for the entire plant received from the Company	25-7-64
2.	Referred to Finance Ministry	4-8-64
3.	Finance Ministry asked for more clarifications	22-12-64
4.	HEC addressed for clarifications	22-1-65
5.	Clarifications received from the Company	1-6-65
6.	Referred to Finance Ministry	8-7-65
7.	Further clarifications called for by the Finance Ministry	
8.	Company again addressed	
9.	Comments of the Company received on	14-4-66
10.	Referred to Finance Ministry	16-5-66
11.	Further clarifications called for by Finance Ministry	17-12-66
12.	Company addressed	27-12-66
13.	Clarifications received from the Company	18-6-67
14.	Referred to Finance Ministry	19-8-67
15.	Approval to estimates at predevaluation rate accorded by Finance Ministry	10-11-67
16.	Finance Ministry requested to approve post-devaluation estimate	8-12-67
17.	Further clarifications called for by Finance Ministry	20-1-68
18.	Company addressed	31-1-68
19.	Clarification received from the Company	19-3-68
20.	Referred to Finance Ministry	3-4-68
21.	Approval accorded by Finance Ministry	3-5-68
22.	Sanction issued on	16-5-68

Heavy Machine Building Plant

1.	Final estimate received from the Company	19-6-68
2.	Referred to the Finance Ministry	1-7-68
3.	Further clarifications required by Finance Ministry	19-8-68
4.	Discussion with Finance Ministry about the clarifications and discussions with the representatives of the Company	28-8-68
5.	Clarifications received	4-9-68
6.	Referred to Finance Ministry	8-9-68
7.	Further clarifications called for by Finance Ministry	20-11-68
8.	Company addressed	29-11-68
9.	Reply received	14-2-69
10.	Referred to Finance Ministry	26-2-69

11. Further clarifications required by Finance Ministry	30-4-69
12. Referred to Finance Ministry	17-6-69
13. Finance not satisfied with reply. A reference to Company suggested	24-6-69
14. Company addressed	15-7-69
15. Reply received	20-11-69
16. Referred to Finance	26-11-69
17. A further connected file called for	20-12-69
18. File sent	3-1-70
19. Finance Ministry advise that approval of Minister should be obtained	23-1-70
20. Minister's approval obtained and file sent to Finance	21-2-70
21. Approval of Finance Ministry received	10-3-70
22. Sanction issued on	9-4-70

Heavy Machine Tools Plant

1. Final estimate received from Company	3-5-68
2. Referred to Finance Ministry	22-5-68
3. Further clarifications asked for	26-7-68
4. Company addressed	7-8-68
5. Details received from the company on	5-10-68
6. Referred to Finance Ministry	18-10-68
7. Approval of Finance Ministry received on	22-4-69
8. Sanction issued	18-6-69

APPENDIX II

(*Vide* para 6·80, page 11 of the Report)

Steps taken by the Management against deficiencies brought in the Report of the Technical Team who submitted their Report in January, 1969

Deficiencies	Steps taken
1	2
I. Main cause of delay in the development of manufacture and supply of different items particularly that relating to defence is inadequate co-ordination, planning and supervision.	Co-ordination meetings are being held regularly at the management level for close follow-up of orders. Project officers had been nominated for specific important orders.
II. The delivery dates had been quoted to the customers arbitrarily. The scheduled dates for completing the work in each department were worked out by the Central Planning Department by simply working backwards on the delivery dates arbitrarily quoted to the customers and therefore had no relation to reality. Even later no attempt was ever made at any stage to determine realistic delivery dates for completing work in different departments.	More realistic delivery dates are being quoted taking into consideration the time required for procurement of materials and blanks and load in hand.
III. In the Central Planning Office no reliable information is available about the extent of load in different sections. The absence of this information leads to imbalances in the shops. Steps should be taken immediately to build up an organisation in the Central Planning Office where reliable data is available about the load in each section.	An organisation for effective production planning and control set up for H.E.C. is being further strengthened and techniques are being improved including introduction of computers. This improvement shall be a continuing feature till production reaches full production. Obviously the set up required for 30,000 T per annum is vastly different from that required for 80,000 T per annum.
IV. The Central Planning Section which is responsible for co-ordination plans, is at present under the control of Works Manager. This arrangement is very ineffective as the Works Manager has no control over the other Departments the work of which he is required to co-ordinate and as reporting on shop performance is not unbiased. In order that this organisation should play an effective role it should be taken out of the control of Works Manager and placed directly under the control of General Manager who should co-ordinate activities of all departments under his control. Needless to say that this organisation should be headed by a suitable person properly staffed.	An organisation for effective production planning and control set up for HEC is at present under consideration.

1	2
V. The purchase Department is in arrears of over 10 months, and the purchase action is indicated only at the time most of the items are required. No list has yet been prepared of standard stock items. In order to arrest further deterioration it is recommended that the purchase department should immediately be strengthened.	The arrears in purchase section have been brought down. A number of items have been declared as stock items.
VI. At present the Stores and purchase organisations are working independently. This does not lead to coordinated working. For efficient working it is necessary that all the organisations handling materials, purchases and stocking should be placed under unified control under one COSP.	Stores and purchase organisation is now under the control of Controller of Stores and Purchase in the plants and materials Manager in the headquarters.
VII. The materials purchased for any specific order should be reserved for issue against that order only and not utilised for other orders without proper sanction.	This is being followed up deviation is made only with the approval of the competent authority.
VIII. The shop practices at present existing are very poor. Steps would require to be taken immediately to ensure that the staff engaged in operating the machine tools know the techniques of correct use of tools. It would also be desirable to introduce refresher courses for supervisors and junior managers.	Constant effort is being made to improve the existing shop practices particularly in the context of introduction of incentives.
IX. It was understood that although a system of preventive maintenance has been introduced yet machine tools are not released in time for timely attention. This is allowed to continue, would result in serious break-down later. The management should take immediate steps to arrange to work to the preventive system of maintenance.	A programme of preventive maintenance is prepared and adhered to the extent possible. There is considerable scope of improvement in this aspect.

APPENDIX III

(*Vide* Para 6·88, p. 123 of the Report)

Statement showing the delay in execution of orders for the period up to March 1969

(Weight in M. tons in brackets)

Sl. No.	Brief particulars	Shop	No. of work orders of						Outside customers	Grand Total	Percentage to total work Orders	Percentage Quantity Orders
			H.M.B.P.			H.M.T.P.						
			Iron Castings	Non-Ferrous Castings	Total	Iron Castings	Non-Ferrous Castings	Total				
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Cases where work has not yet been started even though due delivery date already expired											
		(*a*) Grey Iron foundry	108 (1751·897)	82 (83·677)	190 (1835·574)	42 (528·262)	14 (200·215)	56 (728·477)	2 (35·520)	248 (2599·571)	39·7	11·6
		(*b*) Steel foundry	—	—	76 (4066·211)	—	—	8 (360·682)	—	84 (4426·893)	30·8	38·8
		(*c*) Forge Shop	—	—	197 (1692·105)	—	—	18 (61·907)	43 (558·969)	258 (2312·981)	47·6	44·6
2.	Cases where work has been taken up but not											

1	2	3	4	5	6	7	8	9	10	11	12	13
	completed so far even though due delivery date already expired	(*a*)	48 (10045·395)	15 (177·173)	63 (10222·568)	8 (189·305)	3 (0·314)	11 (189·619)	3 (2781·918)	77 (13194·105)	12·3	59·0
		(*b*)	—	—	62 (5050·293)	—	—	4 (41·487)	—	66 (5091·780)	25·8	44·6
		(*c*)	—	—	92 (1010·418)	—	—	5 (1·179)	15 (1044·460)	112 (2056·057)	20·7	39·6
3.	Cases where work has been completed with delay ranging from 1 month to 27 months ..	(*a*)	33 (616·612)	87 (1261·146)	120 (1877·758)	5 (8·102)	7 (29·095)	12 (37·197)	—	132 (1914·955)	21·2	8·6
		(*b*)	—	—	30 (143·586)	—	—	2 (0·375)	—	32 (143·961)	12·5	1·3
		(*c*)	—	—	49 (147·223)	—	—	14 (4·124)	26 (47·849)	89 (199·196)	16·4	3·8
4.	Cases where work has been completed with in delivery date ..	(*a*)	1 (0·007)	33 (269·446)	34 (269·453)	—	—	—	—	34 (269·453)	5·5	1·2
		(*b*)	—	—	1 (0·850)	—	—	—	—	1 (0·850)	0·4	——
		(*c*)	—	—	7 (4·404)	—	—	2 (0·305)	—	9 (4·709)	1·7	0·1

5. Cancelled work orders	(a)	35 (700·149)	12 (22·342)	47 (722·491)	5 (114·541)	2 (1·679)	7 (116·220)	56 (2558·400)	2 (3397·111)	9·0	15·2
	(b)	—	—	49 (1008·166)	—	—	—	—	49 (1008·166)	19·1	8·0
	(c)	—	—	46 (455·329)	—	—	1 (0·365)	17 (91·739)	64 (547·433)	11·8	10·6
6 Off-loaded work orders	(a)	76 (991·954)	—	76 (991·954)	1 (0·370)	—	1 (0·370)	—	77 (992·324)	12·3	4·4
	(b)	—	—	24 (735·203)	—	—	—	—	24 (735·203)	9·4	6·5
	(c)	—	—	10 (66·607)	—	—	—	—	10 (66·607)	1·8	1·3
7 TOTAL	(a)	301 (14106·014)	229 (1813·784)	530 (15919·798)	61 (840·580)	26 (231·303)	87 (1071·883)	7 (5375·838)	624 (22367·519)	100	100
	(b)	—	—	242 (11004·309)	—	—	14 (402·544)	—	256 (11406·853)	100	100
	(c)	—	—	401 (3376·086)	—	—	40 (67·880)	101 (1743·017)	542 (5186·983)	100	100
8. Grand Total		—	—	1173 (30300·193)	—	—	141 (1542·307)	108 (7118·855)	1422 (38961·355)		

NOTES:—

(*i*) The quantities shown in the table do not include work orders for internal consumption.

(*ii*) Delivery dates denote the dates by which the indenting departments *viz.* HMBP and HMTP desired the work to be completed.

APPENDIX IV

(*Vide* Para 6·260. p. 214 of the Report)

The table indicating the particulars of rejections of the items produced in the Foundries and the Forge Shop of the Foundry Forge Plant .:—

Items	Year	Quantity inspected (in M. tons)	Good (in M. tons)	Rejected			Percentage of rejected quantity to the quantity inspected
				Within the shop (in M. tons)	Outside the shop (in M. tons)	Total (in M. tons)	
1	2	3	4	5	6	7	8
(*i*) F. F. P.							
Grey Iron Foundry							
(*i*) Shaped Castings	1964-65	971·109	913·828	—	—	57·281	5·69
	1965-66	2,603·000	2,323·100	—	—	279·900	10·75
	1966-67	2,586 700	2,356·100	—	—	230·600	8·91
	1967-68	3,634·363	3,353·900	217·871	62·592	280·463	7·72
	1968-69	5,316·978	4,619·635	456·074	241·269	697·343	13·00
		15,112·150	13,566·563	673·945	303·861	1,545·587	10·16
(*ii*) Ingot Moulds	1966-67	1,489·900	1,183·900	—	—	306·000	20·58
	1967-68	1,633·838	1,433·333	199·509	1·000	200·505	12·27
	1968-69	1,770·741	1,733·754	36·987	—	36,987	2·09
		4,894·479	4,350·987	236·496	1·000	543·492	11·11
(*iii*) G. I. Rolls	1965-66	51·900	50·300	—	—	1·600	3·27
	1966-67	356·000	274·300	—	—	81·700	29·50
	1967-68	770·924	622·582	65·950	82·392	148·342	19·24
	1968-69	1,162·923	823·860	66·252	272·811	339·063	29·17
		2,341·747	1,771·042	132·202	355·203	570·705	24·36

1	2	3	4	5	6	7	8
Non-ferrous Foundry							
(1) Copper Castings	1964-65	28·4234	27·2073	—	—	1·2161	4·27
	1965-66	58·8615	56·3861	—	—	2·4754	4·20
	1966-67	57·9392	53·7322	—	—	4·2070	7·26
	1967-68	70·2070	63·9130	6·294	—	6·2940	8·96
	1968-69	54·1660	50·1660	3·500	0·500	4·0000	7·38
		269·5971	251·4046	9·794	0·500	18·1925	6·75
(2) Aluminium Castings	1964-65	27·3861	26·6670	—	—	0·7191	2·62
	1965-66	15·5044	14·9757	—	—	0·5287	3·40
	1966-67	8·9661	8·7352	—	—	0·2309	2·57
	1967-68	7·0460	6·6790	0·3670	—	0·3670	5·20
	1968-69	10·1240	9·6310	0·4930	—	0·4930	4·87
		69·0266	66·6879	0·8600	—	2·3387	3·38
Steel Foundry							
(1) Steel Castings	1966-67	213·349	208·109	—	—	5·240	2·46
	1967-68	1,353·019	1,330·077	—	—	22·942	1·69
	1968-69	2,578·440	2,508·850	—	—	69·590	2·69
		4,144·808	4,047·036	—	—	97·772	2·36
(2) Steel Rolls	1968-69	51·79	16·90	—	—	34·89	67·37
		51·79	16·90	—	—	34·89	67·37
(3) Steel Ingots	1966-67	57·470	57·470	—	—	—	—
	1967-68	1,201·470	1,156·690	—	—	44·780	3·73
	1968-69	3,952·780	3,734·620	—	—	218·160	5·52
		5,211·720	4,948·780	—	—	262·940	5·04
Forge Shop ..	1966-67	77·105	76·956	—	—	0·149	0·19
	1967-68	524·888	502·511	—	—	22·377	4·26
	1968-69	2,096·170	2,058·860	—	—	37,310	1·79
		2,698·163	2,638·327	—	—	59·836	2·22

APPENDIX V

(*Vide* Para 7·22, p. 281 of the Report)

An analysis of the cost of production of main products of Foundry Forge Plant and Heavy Machine Building Plant in respect of the year 1967-68 and 1968-69.

Products	Production (In M. tons)	Material cost	Direct labour	Shop over-heads	Total Shop cost	General over-heads	Total cost	Selling price
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
FOUNDRY FORGE PLANT								
1. G. I. Castings								
1967-68	3354	519	69	605	1193	744	1937	2000
1968-69	4620	529	61	544	1134	1846	2980	2000
2. G. I. Rolls								
1967-68	623	1474	42	753	2269	988	3257	3500
1968-69	824	1465	23	578	2066	1759	3825	3500
3. Ingots Moulds								
1967-68	1433	540	43	304	887	269	1156	700
1968-69	4734	510	25	245	780	1257	2037	700
4. Al-castings								
1967-68	6	7718	1218	6598	15534	4782	20316	12000
1968-69	10	7216	952	4841	13009	8408	21417	12000

5. Cu-Castings								
1967-68	64	13120	496	2919	16535	5159	21694	22000
1968-69	50	12038	375	2147	14560	6921	21481	22000
6. Steel Castings								
1967-68	1326	1188	142	1701	3031	1120	4151	3000
1968-69	2509	965	60	847	1872	2218	4090	3000
7. Forgings								
1967-68	512	950	354	3672	4976	1173	6149	3000
1968-69	2050	1133	113	2041	3287	3290	6577	3000
HEAVY MACHINE BUILDING PLANT								
1. Blast Furnace equipment								
1967-68	1365	2957	326	1304	4587	2393	6980	6273
1968-69 B. S. L.	2938	3954	83	333	4370	5503	9873	13700
B.S.P.	4634	4812	307	1228	6347	2101	8448	6273
2. Coke oven equipment								
1967-68	419	3699	400	1597	5696	2590	8286	6273
1968-69 B.S.P.	1240	3526	532	2126	6184	3927	10111	6273
B.S.L. ..	1337	1557	162	647	2366	2994	5360	13700
3. Cranes								
1967-68 ..	507	5005	89	357	5451	2818	8269	6035
1968-69 BHEL	2154	5608	122	486	6216	1299	7515	6000

1	2	3	4	5	6	7	8	9
BSL	85	5600	257	1029	6886	8015	14901	10800
FFP ..	60	6428	1199	4796	12423	13071	25494	6000
4. Oil Drilling Rigs ..								
1967-68	533	13513	111	442	14066	8524	22590	9611
1968-69	914	9976	235	939	11150	7418	18568	9611
5. Well Drilling Rigs								
1967-68	366	11406	130	518	12054	6629	18683	17646
1968-69	416	12142	139	557	12838	8535	21373	16705
6. Excavators								
1967-68	421	13763	430	1722	15915	9217	25132	8637
1968-69 N. C. D.	423	13201	977	3909	18087	10716	28803	11109
7. Machining Rolls for BSP								
1967-68	737	—	753	3011	3764	2070	5834	
1968-69	1028	—	754	3017	3771	2658	6429	1042
8. Structurals F.F.P.								
1967-68	2654	1180	163	653	1996	1145	3141	1500
1968-69	3646	1177	167	669	2013	1263	3276	1500

9.	Bokaro Structurals ..								
	1967-68	57	1782	1137	547	2466	1389	3855	2425
10.	Blast Furnance Structurals								
	1967-68	773	1393	242	968	2603	1151	3754	1840
	1968-69 BSP	4057	1069	91	364	1524	376	1900	1840
	BSL	5338	1808	136	543	2487	3139	5626	2378
11.	C. I. Floor Plates								
	1968-69	1311	2443	474	1895	4812	3812	8624	2325
12.	Lift Mechanism for Gandak Barrage								
	1968-69	204	843	1842	7366	10051	5822	15873	—
13.	Machining of Steel and Iron								
	1968-69	272	3111	455	1821	5387	5189	10576	3855
14.	Rolling Mill Equipment								
	1968-69 Ishapur ..	399	3649	1364	5458	10471	11618	22089	10000
	B.S.L. ..	62	845	133	544	1522	2473	3995	13700
15.	Components for Cement machinery 1968-69								
	1968-69	142	8684	1199	4798	14681	17149	31830	5938
16.	Cable Armouring Machine								
	1968-69	87	2973	1738	6953	11664	18476	30140	6600

1		2	3	4	5	6	7	8	9
17.	Crushing and Grinding Equipment								
	1968-69 HMPB .. (for stock purposes)	62	9778	1109	4437	15324	7195	22519	*
	NMDC BSL ..	312	12380	83	331	12794	13869	26663	4441
		51	10442	82	328	10852	15138	25990	13700

* As there was no sale order in hand and the item was manufactured for stock purposes, no selling price has been indicated.

(*a*) The figures mentioned above were obtained from the Management who did not reconcile the same with the fine records; the figures are not, therefore, susceptible of verification.

(*b*) Incidence of 'General Overheads' was generally more in 1968-69 as compared with that in 1967-68 despite the production in 1968-69 being more. This was due to increase in the rates during 1968-69.

(*c*) Selling prices for F.F.P. products shown in col. 9 are the rates recovered for supplies which are mostly the H.M.B.P. and H.M.T.P. The transfer prices for G.I. castings and steel castings were fixed at flat rates in April, 1967. Manner of fixation of price of other F.F.P. products is not known.

(*d*) In making the above analysis over-head expenditure as applied to various jobs has only been taken into consideration. The actual expenditure was, however, much in excess of the over-head expenditure actually applied. According to analysis made in the F.F.P. for example, in the year 1968-69, the total overhead expenditure amounted to Rs. 7· Overheads expenditure actually applied to jobs executed by the Plant was, however, Rs. 1·54 crores leaving un-absorbed overhead expenditure of Rs. 5·52 crores. In the above comparison of cost with the selling price such un-absorbed overhead expenditure has not been taken into consideration. Similar analysis in respect the other Plants has not been attempted.

APPENDIX VI

Summary of Conclusions/Recommendations of the Committee on Public Undertakings contained in the Reports

Sl. No.	Reference to Para No. in the Report	Summary of Conclusions/Recommendations
1	2	3
1.	2·13 & 2·14	The Committee take a serious note that it took the Corporation and the Ministry almost ten years to finalise the capital estimates of the various projects of HEC. The estimates for township and 'common charges' are yet to be finalised by them. It is unfair to the Parliament and to the country to make them commit to a project on a piecemeal basis from year to year without giving a true and realistic picture of the final cost of the project. The Committee would like to strongly re-emphasise and reiterate what has been stated in the 51st Report of the Estimates Committee (1963-64) that the 'total commitments on such projects should be prepared as realistically as possible in the beginning and should be available to Government and Parliament before a project is approved, so that there is proper and effective control on the finances of the Company'. The Committee recommend that all the procedural delays should be investigated and responsibility fixed for the various lapses which have caused the delay in the sanction of the estimates.
2.	3·8 & 3·9	The Committee note with profound regret that spares worth more than two crores of Rupees were received much before the receipt of plant and equipment for which the spares were required. The spares rusted in the stores till the plant and equipment arrived. The capital remained blocked. The loss of interest has not been calculated. In their explanation for the loss the Corporation have merely stated "presumably it was considered that the spares would be supplied alongwith the equipment". In the opinion of the Committee the huge loss suffered by the Corporation is due to utter lack of coordination. The Committee recommended that the Ministry should re-examine the whole matter and fix responsibility for this serious lapse.
3.	3·12 & 3·13	The Committee regret that what the Corporation themselves feel as 'desirable' has not been done in practice. HEC Plants are not the only plants set up with the collaboration of East European Countries. Heavy Engineering Corporation should have consulted other similar undertakings and should have tried to correlate the booking in accounts with the actual consumption in order to have a proper control on consumption of stores/spares.

1	2	3
		The Committee recommended that the Ministry/ Bureau of Public Enterprises should issue guidelines making it obligatory on all Public Undertakins to insist that the price and weight of each individual spare/ equipment to be imported is mentioned in a statement attached to each agreement with foreign collaborators.
4.	3·18	The Committee are happy that the doubts about the payments to the collaborators for doubtful periods of leave, journey etc., have since been cleared. The Corporation have received clarification from Government that "the doubtful periods are not doubtful and that the payment has to be made." But the fact remains that the doubts arose only because uniform procedure was not adopted even after September, 1960 when principles to govern fixation of remuneration and fee for consultancy services were laid down by the Government in accordance with the recommendations of the Estimates Committee. The Committee reiterate that in future the procedure laid down by the Government in regard to such matters should be strictly adhered to by the Undertakings while entering into agreements with foreign countries.
5.	4·16 to 4·18	The Committee feel that the delay in the erection and commissioning of the project has considerably lengthened the gestation period of HEC resulting in considerable loss in production. The cost of construction went up as a result of delays. The rate of build up of production capacity in the Heavy Machine Building Plant and Heavy Machine Tools Plant and also the production in FFP had been affected due to delay in the erection and commissioning of the Foundry Forge Plant. Forgings and castings worth about Rs. 3·5 crores had to be procured from other sources including imports as a result of delay in the commissioning of this Plant. The Secretary of the Ministry admitted during evidence that "the delay in completing the project certainly affects the retrun on capital as well as the cost of production of the items which are manufactured in the project." It also results in loss of efficiency and profitability. The Secretary of the Ministry further admitted that they could gather the information with regard to commissioning through periodical reports on the progress of construction and through quarterly financial reviews. The Committee regret that although the information about delay came to the Ministry through these reports, they did not take any effective action. The Committee take a serious note that neither the Corporation nor the Ministry have assessed the total loss suffered by the Corporation as a result of delays in the erection and commissioning of the Plant. Inadequate initial soil investigation, delays in securing steel, working drawings and other material etc., have resulted in delays. In the circumstances therefore, it is important to find out as to what extent the delay was avoidable and to ascertain as to the precise causes responsible for not taking timely action.

1	2	3
		The Committee recommend that the Ministry/ Undertaking should assess the total loss incurred by the Corporation as a result of delays and the extent to which delay could have been avoided. Such a detailed and scientific study will help in avoiding the pitfalls in the future.
6.	4·29 to 4·31	The Committee consider that before taking a decision to purchase equipment required for construction etc. it was but proper that the management should have carried out proper 'opportunity cost' study and kept the facts on record for future reference and guidance. The Committee suggest that the Bureau of Public Enterprises should issue general guidelines on the subject to obviate such lapses in future. The Committee also recommend that after the construction or other equipment are found surplus to the requirements of a public undertaking, these should be notified without delay to the Bureau of Public Enterprises as well as other public undertakings so that those could be put to effective use. The Committee would like the Bureau of Public Enterprises to issue necessary directions in the matter. The Committee would also like the Corporation as well as the Bureau to make continuous efforts for the deployment/disposal of equipment which are now found surplus to the requirements. The Committee would like to be informed urgently of the action taken in the matter.
7.	5·25	The Committee find that the Heavy Engineering Corporation has been able to reach no more than 19 to 20% of its rated capacity in 1970-71 and with "greatest of efforts" it may be able to achieve this year 30% of the rated capacity. The Committee are constrained to observe that Heavy Engineering Corporation have not even been able to meet in full orders for equipment and machinery required for the Bokaro Steel Plant. The Committee understand that in taking a decision on the further expansion of Bokaro one of the considerations was to ensure that the Heavy Engineering Corporation have adequate load of work. The Committee also find that Government have sanctioned construction of three new steel plants besides expansion of Bhilai and other steel plants. The Committee see no reason why in this context Heavy Engineering Corporation should not be able to pick up the work to its full capacity in the next two or three years and provide to the maximum extent possible indigenous equipment and machinery for meeting the expansion-requirements of Bokaro and other steel plants and the setting up of the three new steel plants. The Commitee find that the Ministry have already taken action in organising Task Forces to tackle systematically and earnestly the problems of Heavy Engineering Corporation. While the Committee appreciate the determination with which the problem of putting to full utilisation the capacity in Heavy Engineering Corporation is being tackled, of late, they feel that these efforts would have to be sustained over a number of years till all the teething troubles of the plants are overcome. Above all, the management and workers

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		should show a sense of unity of purpose and dedication in stepping up productivity and production of this crucial heavy engineering sector project. The Committee recommend that Government should keep an unremitting watch on the utilisation of capacity of the plant from quarter to quarter and year to year so as to ensure that there is no slackening of effort at any time and at any level so that the full rated capacity of the Corporation, which has been set up with such large investment of the nation, is put to effective use at the earliest.
8.	5·36	The Committee regret to note that the Project Report did not indicate the build-up of capacity from year to year. The Committee find that almost every year a new exercise is being done to determine the build up of capacity. The various exercises made by different agencies are substantially at variance with each other. There has been no consistency in assessing the build up of capacity of the Undertaking from time to time and the Corporation has been making downward revision of the capacity developed or likely to be developed. The Committee are of the opinion that a realistic assessment of build up of capacity should have been done at the very inception and if it was revised subsequently, the reasons therefor and concrete action taken to obtain the rated capacity should be contemporaneously brought on record in the form of memorandum for the consideration of Board of Directors. Government should be kept contemporaneously informed of the position. The Committee recommend that Government should ensure that the Project Reports for Plants to be set up in future should indicate the gradual build up of the capacity of the Plants from year to year.
9.	6·18 to 6·21	The Committee are forced to the conclusion that the Heavy Engineering Corporation have suffered mainly because they have lacked an organizational set-up which could bring up in an integrated manner the three complexes of Foundry Forge Plant Heavy Machine Building Plant and Heavy Machine Tools Plant which constitute the Heavy Engineering complex. As already pointed out by the Committee in their earlier Report [14th Report (1967-68)—para 52], the delay in setting up the Foundry Forge Plant and bringing up its production capacity have acted as a serious constraint on the development of manufacturing capacity in Heavy Machine Building Plant and Heavy Machine Tools Plant. The Committee have elsewhere in the Report highlighted the deficiencies noticed in the working of the Foundry Forge Plant and other plants and desire that immediate action should be taken by Government to set right these shortcomings in the interest of achieving production according to the installed capacity. As regards other constraints on production such as inadequate supply of raw materials, under-utilisation of men and machinery, the Committee have no doubt that these difficulties are not insoluble and can be resolved by skilled management and advance planning.

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		The Committee are much impressed by the systematic approach which is being followed in recent months by Government in tackling some basic issues like standardisation of machinery and equipment required for steel plants, which are to be manufactured in the Heavy Engineering Corporation, constitution of task forces to resolve problems and bottlenecks in the interest of smoother functioning of the plants and above all, a determination to improve the existing low utilisation. The Committee have no doubt that if such sustained efforts continue to be made, the Heavy Engineering Corporation should before long be able to deliver the machinery and equipment for steel plants in time and thus put to productive use the built up capacity.
10.	6·31 to 6·33	The Committee are concerned to find that only 10 to 25% of the capacity of the plants had been utilised. They are surprised to note that even those percentages had been worked out only after taking into account the work off-loaded to ancillary industries/sub-contractors. In spite of the fact that 75 to 90 per cent of the capacity of the plants remained unutilised, the Corporation off-loaded equipments, components, structurals and castings etc. worth about 19·5 crores of rupees during 1967-68 to 1970-71. Although the targets of production envisaged off-loading of certain quantities, it was noticed that the actual quantities off-loaded were much more than that envisaged. The off-loading of works showed also an upward trend upto 1968-69 because of low productive efficiency. It has been admitted by the Management that "had the efficiency been higher it might not have been necessary to off-load at all or to off-load to a lesser extent". Off-loading had also to be resorted to because of delay in the construction and commissioning of the Foundry Forge Plant. In an effort to meet the requirements it was considered expedient to off-load certain quantum of work to other suppliers. The Committee have already stressed that the production in the Foundry Forge Plant should be geared up on a priority basis so that the production in the other two plants does not suffer on account of the failure of FFP to meet the requirements in full and in time. While the Committee feel that it might be economical to off-load certain simpler items to ancillaries so that the production capacity of the plants could be utilised on the manufacture of complicated and heavier items, the Committee are unhappy that because of organisational failures, crisis-action had to be taken to off-load even heavy structurals castings and forgings in order to meet the commitments already made. The Committee note that as a result of certain steps taken by the management, off-loading of works has been considerably reduced during the year 1970-71. They desire that constant efforts should be made to see that off-loading is avoided as far as possible and only such items are off-loaded which are clearly outside the profile of H. E. C. or where it is in the overall interest of the Corporation and industrialisation policy to get them manufactured in ancillary units.

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11.	6·44 & 6·45	The Committee regret that the management did not follow the procedure which they themselves had decided to adopt for the off-loading of castings. Though according to the procedure the preliminary selection of prospective tenderers for giving a particular work should have been made by a Committee formed by the General Manager including a representative of Finance, they, however, find that the Finance Branch in the Plant was not associated in the preliminary selection of prospective tenderers for drawing up of a panel of probable suppliers. Again, tenders were invited from 4/5 firms only on the plea of availability of limited number of drawings, whereas according to the procedure prescribed a selection of 5/6 firms at a time was to be made in such a way so that all firms could get the opportunity for quoting for orders. The Committee feel that the benefit of greater competition should have been secured by making arrangements for duplication of drawings and inviting larger number of firms for giving quotations instead of showing drawings to a limited number of parties at the Plant. The Committee stress the need for strict observance of a procedure for off-loading of works which would make for the widest possible competition.
12.	6·56 to 6·61	The Committee find that although 3,415 M. tons of structurals were got fabricated from private firms at a cost of Rs. 11·79 lakhs on the plea that Heavy Machine Building Plant was not in a position to deliver the building structurals to the HMTP and FFP by the stipulated time; actually there was a time gap of about 6 months between the delivery and consumption of the structurals in the initial stages of erection. The Committee further note that whereas the manufacturing work order for a quantity of 2,290 M. tons of structurals for the 6th Blast Furnace Complex, Bhilai, was opened in April 1965 without calling for tenders on the plea of urgency there had been a delay in the fabrication of structurals. It appears to the Committee that the plea of urgency for off-loading the work of structurals can hardly hold good in all cases. It would have obviously been in the interest of Corporation to examine each case more thoroughly with reference to its own capability and the realistic delivery schedule for each work so as to undertake the fabrication to the maximum possible extent in the Corporation itself. The Committee are at a loss to understand why the Corporation kept on off-loading fabrication of structurals even after commissioning of the new steel fabrication shop in November, 1966 on the plea that they did not have adequate cranage facilities. The Committee have pointed out elsewhere in the Report that the Heavy Engineering Corporation have an excess number of cranes and many of them are not being utilised at all. Even if these existing cranes were not suitable for the work required, the committee cannot understand why it was not found possible to

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		arrange either for the indigenous manufacture of the requisite cranes or their import, in the interest of production. The Committee are also concerned to note that a private firm is being allowed to do fabrication work within the premises of the Corporation by using the facilities made available to them by the Corporation. It is not clear, if a private party can at all be allowed to undertake such work within the premises of a public undertaking; the more pertinent question is as to why the Corporation could not put its own resources to use in fabricating the job. The Committee would like Government to look into the matter immediately and inform them of the action within three months.
13.	6·65 & 6·66	The Committee regret to note that the prices for a quantity of 13,987·544 M. tons of equipment off-loaded to Garden Reach Workshops Ltd., and Central Inland Water Transport Corporation Ltd.,—two Undertakings in public sector—relating to Bokaro Steel Ltd., and Bhilai Steel plant in the year 1969 have not been settled so far. One of the main reasons for delay in the settlement of price was that the collaborators had not given itemised cost or price for the equipment. The collaborators charged by tonnes for the entire plant and machinery without making distinction between intricate and simpler parts of manufacture. The Committee have elsewhere recommended that the Ministry/Bureau of Public Enterprises should issue guidelines making it obligatory on all public undertakings to see that the price of main items of equipment and machinery supplied by collaborators is mentioned in a statement attached to each such agreement. The Committee desire that the Ministry/Bureau of Public Enterprises should evolve a well-defined procedure so as to ensure expeditious settlement of prices between public undertakings.
14.	6·74 & 6·75	The Committee feel that as pattern making is a very intricate and specialised job, earnest efforts should be made to develop self-reliance. The Committee consider that, where it becomes inescapable to off-load pattern making to outsiders, the Heavy Engineering Corporation should draw up, after careful investigation, a panel of realiable firms who can do the job so that the Corporation has the benefit of competitive quotations in placing orders.
15.	6·94 & 6·95	The Committee express their deep concern about the delay in the execution of orders by HEC which has resulted in "serious delays in commissioning of various projects" both in the public and private sectors. What surprises the Committee most is that "no assessment of the exact import of such delays has been made" either by the Ministry or by the Management. With a view to improve the situation, the Committee on Public Undertakings (1967-68) had recommended that the Corporation should take immediate

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		steps to ensure adherence to the delivery dates. A team to Techenical experts pointed out various deficiencies such as inadequate coordination, planning and supervision, quotation of arbitrary delivery dates to customers, absence of information about the available load in different sections, purchase action for stores not being initiated in advance, lack of coordination between stores and purchase organisations, absence of a programme for preventive maintenance etc. The Management admitted that there were still delays in the execution of orders because of law productivity. poor maintenance and unsatisfactory supply of materials. The Committee note that delay in execution of work in Foundry Forge Plant is the major contributory factor for the delay in the execution of orders in HEC. The Committee note that inspite of the recommendations of the technical experts to improve the working of the Foundry Forge Plant the position has not substantially improved. As the Foundry Forge Plant holds key to productions in the entire complexy the Committee feel compelled to recommend that the position should be reviewed at the highest level and a task force entrusted with the responsibility of bringing up the production in F. F. P. to the level required for meeting adequately and in time the requirements of forgings and castings etc. The Committee would like to be informed of the improvements affected within three months.
16.	6. 104 & 6 ·105	The Committee are surprised and regret to note that upto March, 1969, as many as 498 orders were cancelled in the Heavy Machine Building Plant. Cancellation had to be done as some orders were opened initially without firm orders from the parties or due to inordinate delay in supplies or even for that matter due to a later decision to import additional equipment to meet the delivery target. All these indicate that the procedure in vogue for opening the work-orders and their actual execution is not a rational one nor is there adequate planning, with the result that in the case of some orders taken up for Bokaro and Bhilai an expenditure of Rs. 5 ·82 lakhs incurred by the Corporation for conversion charges and overheads has been rendered infructuous. The Committee have elsewhere deprecated the delay in the execution of orders by the Corporation and desire that effective remedial action should be taken to have a realistic delivery schedule and adhere to it. The Committee fail to understand how manufacture of some items was taken up without any firm orders resulting in infructuous effort and expenditure. The Committee hope that effective action would be taken to avoid the recurrence of such infructuous efforts.
171	6 ·124 & 6 ·126	The Committee find that out of the total order of 99,979 M. tons of equipment and structurals received from the Bokaro Steel Ltd,, the Heavy Engineering Corporation Ltd., off-loaded 32,620-M. tons of equipment and structurals to outside agencies.

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		In order to meet the delivery schedules, Heavy Engineering Corporation had to import 13,760 M. tons of equipment from U.S.S.R. Off-loading had to be done "both on account of low production efficiency and consequent overloading of work on certain loaded centres". The Committee further note that the delay in the execution of orders was not only caused due to defective production planning in H. E. C. but also due to failure on the part of private producers. The Committee regret that the Corporation has not finalised any contract with such firms so far, nor taken any action against them for not adhering to the delivery schedle. The Committee desire that responsibility for delay in finalising the contracts should be fixed. Time being the essence of contracts the Ministry/Management should ensure that contracts with sub-contractors whom work is off-loaded are finalised without any delay and hereafter specific time schedule for delivery of equipment should be provided therein. The Committee view with concern that extremely unsatisfactory trends in the supply of equipment and structurals to Bokaro Steel Ltd., by the Heavy Engineering Corporation Ltd., seriously affected the erection programme of the Bokaro Steel Ltd., and recommend that Government should immediatey make an overall assessment regarding the actual supplies made by HEC *vis-a-vis* those scheduled for delivery and take appropriate steps either for the manufacture of the components in the country or for importing them consistent with the production capacity of the H. E. C.
18.	6·134 to 6·137	The Committee regret to note that loss/profit incurred by the Corporation in respect of equipment supplied to Bokaro Steel Ltd., could not be as certained on account of non-availability of the cost of production (in the case of equipment) and the source of supply i. e. whether out of Plant's own production or out of the contractors' supplies (in the case of structurals). The Committee recommended that the management should work out the financial results of transactions with Bokaro Steel Ltd., without any delay. The Committee further find that although Government have fixed the prices for supplies to Bokaro, but the prices payable in respect of quantities off-loaded to the Garden Reach Workshops Ltd., and Central Inland Water Transport Corporation Ltd., which are also Government of India undertakings, have not been settled so far. The full financial implications of off-loading these equipment cannot obviously be known till prices are finally settled. The Committee desire that the prices should be settled expeditiously by the Bureau of Public Enterprises to whom the case stands referred.

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		The Committee are greatly concerned to note the inordinate delay in settling prices for machinery and equipment to be supplied by Public Undertakings to another Public Undertaking in the Government Sector. The Committee stress that the Ministry/Bureau of Public Enterprise should evolve a well defined procedure in order to eliminate delays that occur due to differences among the public sector undertakings regarding settlement of prices. Whenever two or more Government Undertakings cannot come to an agreement, they should avail of this procedure and have the matter decided without delay, so that the financial implications of each transaction become known in time to all concerned.
19.	6·140	The Committee consider that the double incidence of sales tax could have obviously been avoided if the orders for machinery and equipment required by Bokaro Steel Ltd. were arranged to be placed directly on Garden Reach Workshops Ltd. and the Central Inland Water Transport Corporation Ltd., after due consultation with the Heavy Engineering Corporation Ltd. The Committee would like Government even now to see whether the incidence of double sales tax could be avoided by arranging for bills being directly raised by the Garden Reach Workshops Ltd. and the Central Inland Water Transport Corporation Ltd. on Bokaro Steel Ltd. instead of routing them through the Heavy Engineering Corporation Ltd. The Committee would also like Government/Bureau of Public Enterprises to issue suitable guidances on the subject so as to obviate incidence of double sales tax in future.
20.	6·161 to 6·163	The Committee are surprised to find that a sum of Rs. 286·08 lakhs has been paid to Bokaro Steel Ltd. in respect of design documentation without even ascertaining whether the cost is payable at all. The Committee also find that out of the total sum of Rs. 286·63 lakhs debited to the account of the Corporation for the receipt of design documentations from the Bokaro Steel Ltd. a total expenditure of Rs. 122·94 lakhs was incurred for design documentations which were either already in possession of the Corporation or which were not at all utilised as components/completing equipments for which the design documentations were meant, were actually imported from Russia. The Committee are of the opinion that the loss incurred by the Corporation on the procurement of design documentations was due to adequate coordination between the Bokaro Steel Ltd. and H.E.C. The Committee feel that the Bokaro Steel Ltd. went in for the import of design documentations without finding out whether or not these were available with H.E.C. and as they could not get out of the commitments, the design documentations imported by them were thrust upon HEC. The justification given by the Management that the new drawings will be useful for future expansion appears to be an afterthought.

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		The Committee would like Government to probe into the matter in order to find out the extent to which the import of design documents, for which large amounts have been paid, was avoidable and has proved infructuous. The Committee recommend that Government should take steps to avoid such losses in future. The Committee would also like Government to issue detailed instructions to public undertakings in the light of this experience so that no omnibus commitment in respect of design documents is entered into which obliges an undertaking to import designs and drawings irrespective of their need. The Committee would like to be informed of the action taken within three months.
21.	6·178 to 6·180	The Committee have been informed that the manufacture of excavators was undertaken after assessment of the demand. It was visualised by the Corporation that 30 excavators would be required per year. The Committee, however, find that only 9 excavators had been supplied by the Corporation since 1965. There had been considerable delay even in the supply of these excavators. The Corporation had to reject orders because they could not meet the demand. N.C.D.C. had to import 9 excavators because the Corporation could not comply with the order. The delay in the supply of excavators resulted in the cancellation of orders. The Committee deplore that due to low productivity and management deficiencies there had been delay in the compliance of orders. The Committee recommend that the delivery for the orders in hand should be expedited so as to attract more orders. The Committee take a serious view of the fact that approval of the Board of Directors was not obtained for the import of components for 9 excavators. Orders were also placed on the Bharat Heavy Electricals Ltd., for the supply of electrical components for the excavators on 2-11-1965, whereas the approval of the Board was taken on 28-5-1970 after a gap of nearly 5 years. The Committee are of the opinion that the approval of the Board of Directors should have been taken at the time of taking the decision to manufacture/import the excavators components and before issuing the letter of intent on BHEL for the electrical components. The Committee would like Government/Heavy Engineering Corporation to look into the matter to obviate recurrence of such instances.
22.	6·194 to 6·197	The Committee regret to note that the manufacture of 20 charging box cars, 12 Nos. HMB-DR-15 water drilling rigs and 20 Nos. UR. B-3 AM rigs was taken up without any specific orders in hand and without any precise estimate of cost thereof, and drilling pipes, tools and imported equipments worth several lakhs of rupees were purchased and they were all remaining idle. The production of these items was taken up merely "with a view to give some loading to the shops" and in order to utilise the capacity of the Plant which undoubtedly involved "commercial risks."

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		Even when orders for 5 Nos. DR-15 Rigs and 7 Nos. UR B-3 Rigs were received, their manufacture was not started. The Committee further note that the Corporation received an order for supply of 3 complete 3-D type drilling rigs from ONGC. Although the rig were to be supplied by the end of 1967, HEC had supplied so far only one rig to ONGC and that too could not be put to use as some of the components were still to be supplied. The Management have admitted that there has been serious delay in the manufacture of rigs. The Committee stress that the Corporation should not take up manufacture of items without any accurate assessment of demand and existing sources of supply or firm order. The delay in the supply of machinery and equipment as compared to delivery schedule is reprehensible as it drives away potential customers. The Committee further deplore that although the cost of production of DR-15-Rigs has not been worked out so far, the price of Rs. 6 lakhs per rig was fixed in 1967 even though the landed cost was Rs. 6·41 lakhs. The net loss in the manufacture of first ten UR B-3 AM rigs was Rs. 17·865 lakhs. The Committee would like Heavy Engineering Corporation to work out invariably costs before agreeing to sale price so that the Management know full financial implications of execution of an order.
23.	6·205	The Committee regret to note that the Corporation proceeded with the manufacture of 100 Ton Derrick Mast without proper examination of its necessity. The Derrick Mast which was completed at a cost of Rs. 1·17 lakhs was not sold to the Rourkela Steel Plant on the plea that it would be utilised in the Plant itself. But actually the Mast was not utilised and lent on hire to Rourkela Steel Plant without setting the terms and conditions therefor. Failure to supply the detailed drawings alongwith the Derrick Mast and to settle the terms of hire initially resulted in short recovery of hire charges to the extent of Rs. 57,513. The Derrick Mast has been lying in dismantled condition alongwith accessories in stores since 3-9-1966. The Committee deprecate that no efforts have been made to utilise the Derrick Mast which was manufactured at a considerable cost. The Committee recommend that the case regarding unwanted manufacture of Derrick Mast should be investigated. The Management should take appropriate steps so that such lapses do not recur.
24.	6·214 to 6·216	The Committee regret to note that the Corporation decided to manufacture vertical type continuous casting machines without any order in hand and without making any market survey to ascertain its demand. The Committee also note that the manufacture of this item was taken up when the expansion programme had not been finally decided upon and the programme had reached only conceptual or feasibility consideration stage. It is quite surprising that no order for any type of machine has been finalised so

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		far. The contract entered into with a foreign firm for obtaining technical know-how and documentation etc. had to be amended as it was decided later to manufacture only radial type continuous casting machine. Initial expenditure of Rs. 7·5 lakhs incurred for the vertical type of machine thus proved to be infructuous. All the cases discussed under the heading 'Defective Production Planning' indicate that the Corporation decided to undertake the manufacture of some of the major items without any proper planning. The ill planned production has resulted in considerable loss to the Corporation. The Committee view with concern the lack of planning and undue haste in taking up manufacture operations and sinking large amounts without a proper market survey of potential customers, resulting in blocked capital and losses to the Corporation. The Committee recommend that all such cases where manufacture of items had been taken up in anticipation of orders or grossly in excess of orders in hand, should be carefully investigated and responsibility fixed. The Committee suggest that Government should also issue suitable guidelines so as to avoid such lapses in future.
25.	6·230	The Heavy Engineering Corporation incurred an expenditure of Rs. 11·23 lakhs by way of engaging two foreign consultancy firms to prepare quotations for Bailadila and Kiriburu projects on turn-key basis. The Committee note that ultimately the decision at Government level was that the role of Heavy Engineering Corporation should be limited to that of supply of equipment and machinery only. While it is true that by preparing comprehensive schemes for these projects, Heavy Engineering Corporation were able to secure orders for machinery and equipment to the extent of Rs. 4·48 crores, the Committee feel that if it was Government's intention that the role of Heavy Engineering Corporation should be limited to that of supply of equipment and machinery only, there might have been no need for entering into consultancy agreements with foreign firms at a heavy cost of Rs. 11·23 lakhs. The Committee would like Government/Heavy Engineering Corporation to learn a lesson from these instances and lay down clear guidelines so that no premature action is taken to engage the services of foreign consultants at heavy cost when in the last analysis their services are hardly required resulting in unfruitful expenditure.
26.	6·236	The Committee regret to note that only 42% of the total quantity requiring rough machining could be handled by the Rough Machine Shop and that there is considerable shortfall in the quantity of castings and forgings rough machines in the Rough Machine Shop. One of the reasons advanced for the inadequacy in handling the required quantity of rough castings and forgings is that all the machines have not been manned so far. The Committee recommend that immediate steps should be taken to fully utilise the capacity of the rough machine shop so

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		that the Heavy Machine Building Plant and the Heavy Machine Tools Plant are not unduly strained for finishing the castings. The Rough Machine Shop should be got manned suitably to undertake the rough machining work without delay.
27.	6·239	The Committee find that the fine auxiliary units constructed at the total cost of about Rs. 6 crores to cater to the needs of the three Plants of H.E.C. remained under-utilised due to low level of production in the Foundry Forge Plant and Heavy Machine Building Plant. Acetylene Plant could be utilised only to the extent of only 15% during 1969-70 and 1970-71. The Committee find that the service facilities in Auxiliary units have now been provided for full production capacity. The Committee express the hope that with the increase in production in the three plants of H.E.C. the production capacity of the auxiliary units would also be fully utilised.
28.	6·244	The Committee regret to note that due to the delay in finalisation of the proposal for installing another compressor in the Oxygen Plant and thereby increasing its filling capacity the Corporation could not earn a revenue of Rs. 32,760 per month in 1968-69 and Rs. 13,722 per month in the year 1969-70. The objective of the Committee in mentioning this instance is to impress that the Corporation should not lose any opportunity to increase its revenue and cut down losses.
29.	6·258 & 6·259	The Committee find that the Detailed Project Report fixed a norm of 22-21 per cent for scrap in equipment structurals. The management have, however, not fixed norms for scrap arising, taking into account the changed product-mix (equipment and Building Structurals). The Committee recommend that in the light of experience gathered so far, the Corporation may fix norms for scrap arising keeping in view the changed product-mix. The Committee would also stress the need for contemporaneous watch being kept on scrap arisings to that remedial action can be taken without any loss of time whenever there is any variation as compared to the norms laid down. The Committee trust that Corporation would maintain separate records for scrap arising in respect of blast furnace structurals and building structurals so as to compare the actual scrap arising with norms indicated in the Detailed Project Report fixed by the Corporation on the basis of its experience.
30.	6·280 to 6·283	The Committee note that the Detailed Project Report had prescribed norms of rejection for shaped castings, ingot moulds, G.I. rolls and on the basis of these norms, it has been worked out that the excess rejections for the years 1964-65 to 1968-69 amounted to Rs. 22·44 lakhs. In view of the heavy amounts involved in these rejections, the Committee would stress the need for taking remedial measures to see that the percentage of rejections is immediately brought down within the norms envisaged in the Detailed

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		Project Report and in fact it should be possible to further reduce the incidence of these rejections by improving quality of materials and production and by imparting training to workers and supervisors at all levels. The Committee note that the Detailed Project Report did not lay down the percentage of rejections for several other categories of manufacture which are now being undertaken in the Corporation. The Committee would like the Corporation to lay down strict norms for these rejections so that it is possible to evaluate the performance and take necessary remedial measures to reduce losses on account of rejections. The Committee find that the Corporation are not maintaining record of the cost of salvaging repairable rejections, as proper time booking system had not been enforced. The Committee would like proper record of the cost of salvaging repairable rejections to be maintained and analysed contemporaneously in the interest of taking timely remedial measures. The Committee would like to be informed of the action taken on the above recommendations within three months.
31.	6·287	The Committee recommend that the quality control and inspection in all the units should be improved so as to obviate the complaints from customers regarding the quality of products manufactured by the Corporation. The Committee need hardly stress that the Corporation should spare no efforts to win the confidence of their customers by supplying flawless quality equipment and machinery.
32.	6·320 to 6·325	The Committee take a serious note of the fact that no record was maintained to indicate the utilisation of machines and labour in any of the main production shops of the Foundry Forge Plant. As regards the reasons for not maintaining records it has been stated that there were certain difficulties as the production facilities had not been stabilised as yet and that the construction work was till in progress in some shops. The Committee fail to understand as to how the construction work obstructed the maintenance of idle time record as the Committee find that under similar circumstances, when the construction work was going on in the Heavy Machine Tools Plant during 1968-69, the idle time record was being maintained. In the case of Heavy Machine Tools Plant also no record of idle labour and machines was maintained till 1st April, 1968 although the production in this plant started in January, 1967. The Committee further find that in the case of Heavy Machine Building Plant no reasons for idle time to the extent of 70·8%, 25·5%, 40·4% and 65·9% have been indicated by the management for the years 1967-68, 1968-69, 1969-70 and 1970-71 respectively. 'Other reasons' account for 9·8%, 18%, 17·1% and 13·1% of the idle time. No reasons for the idle machines to the extent of 29·8%, 14·1%, 19·6%

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and 36·2% have been given for above years whereas the 'other reasons' account for 10·4%, 6·9%, 12·7% and 13·7% of idle machinery. This clearly indicates that no proper records were being maintained by the management during all these years.

The Committee are left with the impression that such gross omission in the maintenance of records of idle manpower and machinery could not take place without the knowledge of management. The Committee cannot too strongly stress that not only proper records should be kept of idle labour hours and idle machine hours but that these should be systematically analysed with a view to take timely action to eliminate such wastage of productive resources. The Committee would like to be informed in detail of the arrangements made in this behalf.

The Committee find that utilisation of labour and machine hours in all the plants of the Heavy Engineering Corporation was much below the total hours available. In the case of HMBP the percentage of idle labour hours to available hours varied from 41% to 56% during the years 1964-65 to 1970-71. The percentage of idle hours of machines to available hours varied from 61% to 78%. The money value of idle labour hours during 5 years i.e. for the years 1964-65 to 1968-69 and idle machines during the two years viz. 1967-68 and 1970-71 (the figures of first three years are not being available) amounted to Rs. 86·18 lakhs and Rs. 350·08 lakhs respectively. In the case of Heavy Machine Tools Plant, the percentage of idle hours of labour to available hours during 1968-69 to 1970-71 was 45·12%, 32·52% and 20·27% respectively. The percentage of idle hours of machines to available hours was 55·31%, 60·93% and 49·48% respectively. The Committee further note that the percentage of idle hours of machines in HMTP do not include the available hours in respect of machines valued at Rs. 323·27 lakhs which were lying entirely idle.

The Committee are shocked to find that in spite of their highlighting in their 14th Report on Heavy Engineering Corporation Ltd. (presented in April, 1968) that the machines were not being put in use for want of trained operators, this handicap continues to persist and accounts for idleness of machines to the extent of about 29% (HMBP) in 1970-71. The Committee are baffled by shortage of trained personnel on the one hand and idle labour hour on the other. Obviously, there has been no purposeful effort to utilise the available manpower for productive purposes, otherwise they can see no reason why it was not found possible during all these four years to train up adequate number of persons in the duties of operators.

The Committee reiterate that the Corporation should work out without further loss of time an incentive scheme in consultation with experts and workers' representatives so that there is in-built incentive for greater production.

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33.	6·327	The Committee note the efforts which are being made for diversification of production in Heavy Engineering Corporation. The Committee need hardly stress that diversification programme should be most carefully devised after mature consideration so that it fits in with the main objective of the Corporation which is to produce machinery and equipment for setting up steel plants in the country.
34.	6·336	The Committee note that the Heavy Engineering Corporation have so far been able to secure only one order for the supply of 500 numbers of Cast Iron Frames and covers to Jordan at a value of £ 13,500/- C.F. Aquaba. In view of the fact that a large percentage of the capacity available in the Heavy Engineering Corporation continues to remain unutilised, the Committee would stress the need for exploring all avenues for export, after meeting the internal demand, so that the Corporation can reap the benefit of production on large scale and also contribute its share in the earning of foreign exchange.
35.	6·345 to 6·349	The Committee are greatly concerned to note that the Heavy Engineering Corporation particularly the Foundry Forge Plant and Heavy Machine Building Plant are still lacking in firm orders on long term basis which alone can ensure development and production on an assured and rational basis. The Committee note that the target for production of steel in the country as well as the capacity have remained static for several years at about 9 million tonnes. It is only now that Government have taken some concrete measures to expand the capacity by 10 million tonnes by the end of the 5th Plan period and have sanctioned the setting up of new steel plants at Visakhapatnam and Hospet with a capacity of 2 million tonnage each and expansion at Bokaro to 4 million tonnes. A special steel plant of 2,50,000—5,00,000 tonnes capacity has been sanctioned for Salem. The Committee welcome the steps taken recently by Government to standardise the machinery and equipment required for setting up new steel plants and for expansion of the existing steel plants. With the standardization of machinery and equipment, it should be possible to make use of the capacity available in the Heavy Engineering Corporation to the maximum extent in the interest of achieving self-reliance. Considering the fact that the responsibilities for steel plants as well as for Heavy Engineering Corporation are placed under the same administrative Ministry, the Committee have no doubt that Government would take necessary measures including the setting up of the Task Forces to sort out in detail, the requirements of machinery and equipment for the new steel plants and expansion of existing ones in order to place long term firm orders on Heavy Engineering Corporation. The Committee need hardly stress that once orders are placed on Heavy Engineering Corporation, the Corporation should spare no efforts to see that machinery and equipment of guaranteed quality which

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		would make for most efficient production are turned out and delivered according to schedule. The sale price for these machinery and equipment should become increasingly competitive with increased turnover. The Committee would like to be informed within three months, of the action taken in pursuance of the above recommendations, as they feel that there is no time to be lost in evolving an integrated programme for creation of additional steel-making capacity and utilisation of capacity of Heavy Engineering Corporation.
36.	6·355	The Committee find that in 61 per cent cases the Company had to reject the orders during the period from August 1967 to January 1969 as the Corporation was not in a position to supply the products according to the requirements of the customers. In about 10 per cent cases not even a regret letter was sent. In majority of cases where quotations were sent, no follow up action was taken after despatch of quotations. The Committee regret to note that the Commercial Division of the Corporation proved inadequate to deal with enquiries from customers. The proposal to reorganise the department has been pending for quite some time. The Committee recommend that the Commercial Department should be reorganised in such a way that HEC can discharge its responsibilities as an industrial and commercial enterprise. The best way the HEC can win and retain the confidence of the customers is through guaranteed quality of machinery and equipment, efficient sales service, adherence to the delivery schedules and readiness to respond to customers' requirements promptly.
37.	7·12 & 7·13	The Committee find that the costing system followed by the Corporation suffered from various deficiencies. They find that no cost accounting manual had been prepared and cost accounting was done through periodical circulars and procedure orders. No detailed cost estimates were being prepared before undertaking the job and it was, therefore, not possible to exercise effective control on costs. Fixed and variable expenses were not recorded separately. It was, therefore, not possible to determine whether any sales were made below the marginal cost. No job analysis had been made to fix the norms for labour requirement. In these circumstances, the Committee feel that the system of cost accounting and cost control as prevailing during the last 8 years or so was neither scientific nor effective. The Committee have been informed that Cost Consultant has since been appointed and comprehensive accounting manual has been prepared. The Committee, however, understand that no accounting manual has been prepared so far. In the preface to the accounting manual on HMBP, it is stated that a suitable casting system is being drafted in consultation with the Cost Consultants. The Committee have also been informed by the management that the basic

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		procedures for the various aspects and cost accounting have already been laid down in the case of all the plants. In the case of HMBP these have been incorporated in the accounts manual which has been extended to the other two plants also. The Committee, however, understand that the accounts manual of HMBP relating to costing is not being followed by FFP and HMTP which are following the procedure laid down earlier. The Committee also understand that in the Foundry Forge Plant, a Committee was formed on 1-1-72 to draft the costing manual of that plant and the work is expected to be completed by June, 1972. The Committee recommend that a comprehensive accounting manual including the cost accounting should be prepared without any loss of time, so that the different shops may follow the correct and scientific procedures for costing. The Committee also hope that steps will be taken to effect improvements in regard to collection of data and introduce effective reporting systems. The Committee also hope that the time booking by clocks would very soon become effective so that the labour and consequently the overheads on it become accurate. 'Introduction of a system of shop floor discipline, correct recording of basic data at that level and a regular flow of documents from the shops to the Accounts Department are some of the steps, suggested by Audit. The Committee hope that with the effective implementation of these measures the costing of the Corporation will become what costing ought to be.
38.	7·59 to 7·61	The Committee find that the actual cost of production in all the plants of HEC was considerably in excess of the estimates given in the DPR. In the case of several items, the actual cost of production is more than 100% of the landed cost derived from DPR (Post devaluation) estimates. Low productivity, high cost of materials and wage rise without commensurate rise in productivity are given as some of the reasons which have resulted in the high cost of production. The Committee further note that except in the case of a few items, the cost of production in the case of major items of production exceeded even the sale price. The cost price in the case of several items was more than 100% of the sale price. It is significant to note that in the case of well Drilling Rigs type DR-15, the cost of production was even more than 250% of the sale price. What surprises the Committee most is that the Corporation accepted jobs at prices which did not cover even the cost of direct materials. This it has been stated was done with the intention of getting the shops fully loaded. The Committee further note that, in making the cost analysis, overhead expenditure as applied to various jobs had only been taken into consideration leaving substantial portion of overheads unabsorbed. The actual expenditure was much in excess of the overhead actually applied. Such unabsorbed expenditure has not been taken into consideration in comparison of cost with selling prices. The Committee find from the review of some of the cases like oil drilling rigs, slag ladle cars, cold blast valves, water well drilling rigs that the Corporation incurred a substantial loss

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		as a result of quoting prices much below the cost of production. Total loss sustained by the Corporation by selling its products at sale prices lower than the cost of production, upto the 31st March, 1971, works out to be Rs. 72·48 crores. According to the Pricing Policy of Government, selling price had to be fixed at rates which the market could bear or the landed cost. This clearly indicates that in case the Corporation has to be a viable unit it must reduce substantially its cost of production. The Committee on Public Undertakings (4th Lok Sabha) in their 14th Report on Heavy Engineering Corporation had recommended that "Concerted efforts should be made by the management to reduce the cost of production through improved productivity and reduction of inventories, wastages of materials and better utilisation of men and machinery". The Committee deplore that nothing substantial has been achieved by the Corporation in this direction. The Committee stress that there is need for sustained efforts and constant vigilance to ensure increased production through better utilisation of men and machinery. This would help the Corporation in reducing the overheads and thereby reduce the cost of production.
39.	8·12 to 8·18	The Committee are surprised to find that the Corporation has not prepared its own purchase manual though it has gone into production in 1964-65. Till recently, the Corporation had no list of its own, of suppliers and depended upon the lists available with the Director General, Supplies and Disposals and Director General, Technical Development. The Ministry have admitted that such a 'position is not satisfactory'. The Committee are convinced that if the Ministry had been vigilant, these shortcomings in stores procurement work would have come to notice much earlier. The Committee hope that the compilation of the purchase manual and the publication of list of suppliers will now be completed without any further delay. The Committee also find that the maximum, minimum and ordering levels had not been fixed in the case of all items. The Committee note that there is also no system in vogue by which the items of stores procured for specific works could be located in a consolidated manner. The Committee have been told that limits have now been fixed for 7,112 items. The Committee feel that the Corporation should complete the process expeditiously in the case of remaining such items which can be converted as 'stock items', so that duplication of orders and unnecessary purchases are avoided. The list of stores procured for cancelled work orders had not been prepared for a long time and consequently the action for their alternative use or disposal had not been taken. Out of the 498 cancelled work orders lists of stores procured for only 55 work orders had been prepared till July, 1970.

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		Another list of 417 cancelled work orders has been prepared now. Out of these no details are available in respect of 45 work orders as regards procurement and disposal of stores. The Committee recommend that all the cases where records are not available with regard to the procurement or disposal of materials should be investigated in order to fix responsibility therefor. The List of Stores procured for work orders cancelled should be completed without delay and surplus stores identified with a view to avoiding further procurement of the same materials. The Committee would like the Corporation to evolve a procedure by which the contingency for cancellation of orders is minimised and in any case where an order is cancelled no time should be lost in ensuring that stores ordered for it are not procured to the extent feasible.
40.	8·26 to 8·27	The Committee find that the Corporation purchased 5 cranes in 1963 at a cost of Rs. 32,230 each. The management claimed that 2 cranes were used for some time in the Heavy Machine Building Plant. No records were, however, shown to Audit regarding the utilisation of these two cranes. All the cranes are lying unutilised in the stores as there is not much use for them. What is most surprising is that after 8 years of purchase of these cranes, the matter is still under investigation. The Committee suggest that the investigation should be completed without delay and they should be informed as to why cranes were purchased without making sure of their utility to the Corporation. The Committee would also like the Corporation to intimate after investigation, whether any of the cranes is defective and if so, fix responsibility for not detecting the same at the time of inspection and payment.
41.	8·32	The Committee find that the Corporation purchased 4 tower cranes at a total cost of Rs. 5·42 lakhs in 1962-63, merely on the advice of the collaborators, without finding out whether these could be used by the Indian erection contractors. Except for one or two cranes, which were put into operation after 5 years, the remaining cranes have not been put to any use. The Committee deprecate that the cranes were not declared surplus to the requirement and no efforts were made to dispose them of as soon as it was known that these were no longer required. The Committee would like that the matter regarding the unnecessary purchase of cranes and the delay caused in their disposal should be investigated and responsibility fixed for such costly lapses. Remedial measures should also be taken to see that such lapses do not recur. The Committee would like Government/H.E.C. to review the position and take appropriate action for either pressing into service the cranes disposing them to other Public Undertakings, who could put them to productive use.

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		The Committee find that the Corporation purchased two used cranes at a total cost of Rs. 1·67 lakhs. The cranes were used after necessary overhauling for 1063 hours and 300 hrs. Only as against their available life of 1900 hours and 9676 hours respectively. The Committee note that the cranes could not be brought into use even after extensive repairs and had to be disposed of ultimately at a loss of Rs. 16,800.00 The Committee fell that the matter regarding purchase of used cranes needs a further probe with a view to fixing responsibility. The Committee find that the Corporation purchased 67 one ton pillar type Jib Cranes during January 1965 to February, 1966 at a cost of Rs. 8·36 lakhs even though a defect in design was noticed when the drawings were approved in 1964. The Committee have now been informed that necessary modification will now be carried out with the help of 'Taper Roller Bearings' which are being imported from USSR and the Cranes will be put to use in about two months time after receipt of the bearings. The Committee consider that the delay caused in carrying out necessary modifications in the cranes is hardly justified. The Committee desire that the matter regarding purchase of defective crane in advance of actual requirement and for not carrying out the modifications within a reasonable limit of time resulting in blocking of capital and loss of interest thereon need further examination with a view to fix responsibility for the lapses, if any.
44.	8·55	The Committee are surprised to note that the Corporation purchased 2 numbers of 5 ton winches and 6 numbers of 3 ton winches in 1964 although 21 numbers of 5 ton winches and 13 numbers of 3 ton winches were already in stock, and were lying unutilised since August 1962. In addition, the Corporation purchased 2 numbers of 8 ton winches during 1963 and 1964. As on date there are in all 25 winches in stock. Although the winches were purchased as for back as in 1962, 1963 and 1964, an enquiry Committee has been appointed only recently to investigate in detail about the unnecessary purchase of winches and it is still to submit the report. The Committee would like to be informed about the findings of the investigating Committee. They would also like to be furnished with a statement indicating the period for which each of the winches was lying unutilised and what had been the estimated loss on account of such an ill-planned purchase.
45.	8·62 & 8·63	The Committee are intrigued to find that it has not been found possible to dispose of the surplus 13,024.02 meters of hose pipes even by public auction. This raises some doubts about the genuineness of the quality of the hose pipes purchased. The Committee would therefore suggest that the entire transaction should be thoroughly investigated to determine how such excessive purchase, far in excess of the requirements was made and whether the normal procedure of calling for tenders, placing of orders, inspection, purchase and careful storage was followed.

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		Responsibility should be fixed for the lapses and remedial measures taken to ensure that it does not recur. The Committee need hardly add that efforts should continue to be made to dispose of the balance surplus hose pipe without delay.
46.	8.76 to 8.80	The Committee find that the purchase of components (with oval covers for ladle cars) in anticipation of specific order resulted in an unnecessary accumulation of capital to the extent of Rs. 68,847. The Committee have been informed that there is no prospect of their utilisation and it is proposed to dispose of these oval covers. The Committee also note that the Corporation had placed an order for 379 induction motors, out of which 330 motors valued at Rs. 5,14,197 were received. Order for 47 motors had to be cancelled after paying a compensation of Rs. 1,900 to the suppliers as by that time balance quantity had already been received. 29 motors were sold to other Government understakings. 263 motors valued at Rs. 4,03,045 were lying in the stock. The Committee were informed that an Enquiry Committee was set up to find out the circumstances leading to the placing of orders for induction motors and also to consider the question of utilisation or disposal of the motors lying surplus in stock. In accordance with the measures suggested by the Enquiry Committee action was taken to approach other Public Undertakings including the Bokaro Steel, Garden Reach Workshop and Bharat Heavy Electricals Ltd. for the sale of the motors but without any result. An advertised tender was also issued towards the end of last year but the response has been poor. The Committee are of the opinion that undue haste was shown in placing the orders for induction motors without examining their actual requirements. The Committee, therefore suggest that the matter should be investigated further and responsibility for the lapses, if any, should be fixed, *inter-alia* finding out the reasons for the non-disposal of the motors.
47.	8.87 to 8.89	The Committee find that in 1965 the Corporation purchased 4,846 kgs. of Manila Ropes valued at Rs. 18,173. Out of these 4,500 kgs. were rejected by an inspecting officer because of inferior quality. The Committee are surprised that the same inspecting officer accepted the rejected ropes and recommended 80 per cent payment. The Committee are informed that the inspecting officer did so on the basis of the recommendation of a Committee consisting of 3 senior officers who were asked to inspect the material. The ropes were got tested in Government Alipore Test House in 1966 and found to be far below the required specifications and on this basis the same had been rejected by the same inspecting officer in August 1966 and the entire quantity is stated to be lying in stores.

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		The Committee consider that neither the inspecting officer nor the Committee of 3 senior officers have acted with a full sense of responsibility and this resulted in an injudicious purchase of Manila Ropes which could not be disposed of. The Committee are constrained to find how these ropes came to be later accepted and paid for and how the sample of the rope was not sent promptly to the Government Alipore Testing House. The Committee would like these aspects to be enquired into and responsibility fixed for the lapses.
48.	8·105 to 8·108	The Committee find that in 1964 the Corporation purchased 12,614·25 kgs. of continuous wire electrodes valued at Rs. 32,712 from a Bombay firm. The payment was made on the basis of an inspection cetificate issued by DG S&D, D.G. S&D carried out only sample test although they were required to test all the electrodes. In July 1965 the electrodes were found to be unsuitable. Further tests were carried out after about one and half years. A repeat order was placed by the Foundry Forge Plant in June 1964 on the same firm for a quantity of 12006·25 kgs. Payment for a quantity of 1157·8 kg. was made without the receipt of inspection certified from the inspection authority and payment for 6895·5 kgs. was released on the basis of an inspection cerificate without proper tests. No certificate receipt voucher was obtained from the stores department before making the payment. The Committee regret to note that due to lack of coordination between the two plants of the Corporation and due to the issue of inspection certificates without proper tests and payment without inspection has resulted in the purchase of electrodes of substandard quality. It is significant to note that even after about 7 to 8 years of the purchase of the defective material the Corporation has not been able to start any investigation in order to find out flaws in procedure and for fixing responsibility. According to the Management the investigation could not be started as the relevant files could not be made available as they were required for the purpose of arbitration. Subsequently the files were required by the lawyers in connection with the court case filed by the suppliers in Bombay Court. The Committee feel that the whole matter smacks of serious irregularities in the purchase procedure. They also deprecate that the matter has been allowed to linger on for years without fixing responsibility for such gross lapses. The Committee would like the Corporation to pin point irregularities in the transactions, fix responsibility and take remedial measures to obviate recurrence. The Committee are greatly distressed to find that such a large number of cases of defective and ill-planned purchases should have occurred resulting in loss of several lakhs of rupees to the Corporation. Apart from the loss, the Committee are greatly exercised about the procurement and purchase procedure in the Corporation which has made possible such gross irregularities. The Committee would, therefore, stress that this and all other cases of irregularities in

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		stores should be closely analysed with a view to identify the shortcomings and deficiencies in the procedure and to rectify the same without delay. The Committee would also like the administrative Ministry and the Bureau of Public Enterprises to take special interest in the matter of stores management for the Committee have come across all too frequently such cases of defective and ill-planned purchases which are symptomatic of a deeper malady. Government should ensure that officers who are initially put in charge of stores and procurement are persons of experience and proven integrity so as to give a sound start in the matter of inventories and procedures for purchases etc. to the Undertaking.
49.	8·116	According to the Management, the ideal stock holding in the Corporation should cover the requirement for 6-12 months. The Committee, however, find that the actual value of stores in stock as at the end of years 1967-68, 1968-69, 1969-70 and 1970-71, represented 34 months', 28 months', 21 months' and 15 months' requirements respectively. Although the ratio of inventory to consumption is showing a downward trend, as a result of efforts made by the Corporation, the present stock with the Corporation is still on the high side. The Committee recommend that concerted efforts should be made to bring down inventories to reasonable limits so as to avoid unnecessary locking up of working capital in inventories and considerable loss to the Corporation resulting in high cost of production.
50.	8·119	The Committee would also like the Corporation to analyse in detail the reasons which have led to the accrual of surplus stores of this high value. The Committee consider that if provisioning of stroes is done on realistic and sound lines there should not arise occasions for such large quantities of stores to be having declared surplus resulting in loss. The Committee would, therefore, like the Corporation to take necessary remedial measures to see that stores are ordered and provisioned on rational basis to obviate such losses.
51.	9·11 & 9·12	The Committee regret to note that the question of changing the equity debt ratio has been pending with the Government for about 8 years. The Estimates Committee in their fifty-first Report on Heavy Engineering Corporation Ltd., presented to the Lok Sabha on the 3rd April, 1964 had asked the Government to examine the matter regarding re-organisation of the capital structure. In their reply dated 8th November, 1965, the Government stated that the question of varying the existing pattern of loan equity parity in respect of these projects would be taken up for consideration after the capital cost are determined. The Committee do not find any reason as to why the question of pattern of financing was linked up with the approval of capital costs. The Committee regret to note that even after the approval of the capital costs, the question of revision of the capital structure, in order to reduce the financial burden on the Corporation, still remains to be finally decided. The Secretary of the Ministry admitted during evidence tha

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		one of the main reasons for high cost of production was the huge interest on loans which the Corporation was required to pay every year.
		The Committee recommend that after examining all the financial implications the Government should finalise the capital structure of the Corporation without any loss of time.
		The Committee on Public Undertakings during their examination of Heavy Engineering Corporation Ltd., in 1967-68 were informed that by 1970-71 there would be an accumulated loss of about Rs. 20 crores and it would take the Corporation about 3-4 years to wipe off the losses. The Committee felt unhappy and observed that the expected profitability of the plants was very low. The Committee now find that even the low expectations of the Ministry have been totally proved to be erroneous. The actual accumulated losses (Rs. 73 crores) by 1970-71 are three and half-times more than that earlier expected.
		The Committee are deeply concerned at the huge loss suffered by the Corporation since its inception. According to the forecast furnished by the management the Corporation is likely to suffer losses to the tune of Rs. 23·5 crores during the next two years, although these forecasts are only tentative. The actual losses are likely to be much more as according to the latest assessment of the Ministry, the year of break even point has been shifted from 1973-74 to 1974-75. The Committee feel that at this rate the Corporation is likely to wipe out all its paid up capital in the next two years.
		The Committee highly deplore that the Project Report does not include any realistic assessment as to when the Corporation was likely to break-even. All the exercises made so far differ widely from each other. The break-even point is being shifted from year to year, by bringing down the likely production and the sale value thereof. From the studies made so far it is difficult to know as to what are the actual orders anticipated and whether the Corporation would really breakeven within any reasonable measure of time.
		The Committee have been informed that the Ministry/Management have taken number of measures such as reorganisation of the management at the higher level, Introduction of Incentive Scheme, improvement in Costing System etc. The Committee would suggest that the management sould intensify the effort to increase production, ensure timely delivery and reduce their costs and overheads by improving productivity and effecting economy.
		In their 14th Report on HEC Ltd. (1967-68) the Committee on Public Undertakings (Fourth Lok Sabha) had suggested that it would be advantageous to have the General Managers on the Board of Directors. The Committee fail to understand as to why the Government has not been able to come to any definite decision to have General Managers

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		in the Board of Directors even after four years of presentation of the Report of the Parliamentary Committee. On the one hand, it has been stated that it is not quite necessary to have the General Managers Board of Directors and on the other hand, the Committee are informed that 'the matter has not been considered yet'. The Committee reiterate their earlier recommendation and suggest that Government should consider this matter from the point of view of improving the functioning of the Corporation. The Committee would like the Government to strengthen the Board of Directors by inclusion of knowledgeable, non-officials of standing to the extent of 50 per cent in the interest of better management of this premier national undertaking which is expected to play a vital role in supplying machinery and equipment for the new steel plants and for the expansion of the existing ones.
54.	10·8	The Committee regret to note that due to frequent changes in the top Management, the production in the Plant suffered considerably. The Committee therefore recommend that as far as possible there should be continuity in the top-Management. Now that the Government have full time Managing Director, Government should consider whether he should also be vested with the duties of Chairman.
55.	10·16 to 10·23	The Committee note that against the requirement of 545, there are as many as 653 officers in Foundry Forge Product and similarly in Heavy Machine Building Project there are as many as 861 as against the requirement of 829. The Committee consider that as neither the Foundry Forge Project nor the Heavy Machine Building Project is anywhere near optimum utilisation, there should have been no question of employing officers even to the extent laid down in the Organisation Manual. In fact the Committee would have expected that the appointment of officers as well as staff and workers would be so phased out as to synchronise with the progress of manufacturing operations. The Committee consider that if strict scrutiny had been exercised in the case of appointment of officers, it would have been easier to enforce the same discipline in the case of appointment of staff and workers. Another factor to which the Committee desire to invite special attention is the extra-ordinarily large number of staff which are employed in the Headquarters of the Organisation which incidentally is situated in the same place as the three Work shops. The Committee can see little justification for having as many as 385 officers and nearly 3,000 supporting staff for the Headquarters organisation. The Committee consider that in all those public undertakings which are engaged in manufacturing operations, the accent should be on appointment of production staff and reduce the burden of indirect workers and officers. The Committee would, therefore, strongly recommend that Government/HEC should critically examine the organisational set up in the Headquarters with a

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		view to re-organise it on functional lines and effect maximum economy in officers and staff so as to act as a model organisation for others to follow.
		The Committee are greatly concerned to find that in a key sector like Design in Heavy Machine Building Plant there is shortage to the extent of 364, as only 191 officers were in position as compared to the sanctioned strength of 555. The Committee are not able to appreciate why the HEC/Government have not paid special attention to this aspect in order to get as many persons as necessary trained either in India or abroad so as to become self-reliant in this key sector. The Committee would like Heavy Engineering Corporation/Government to prepare a time bound programme for training of officers in Design and other connected works so as to attain self-reliance at the earliest.
		The Committee are greatly concerned to find that while the utilisation of Foundry Forge Project and Heavy Machine Building Project has only been to the extent of 30% or less, the staff has been appointed in almost full strength. The Committee cannot too strongly stress that there should be proper planning in the matter employment of officers and workers to ensure that they synchronise with the physical and actual progress made in establishing production.,
		The Committee would aslo like to stress that yardsticks for employment of staff should be evolved most carefully right in the beginning so that there is no question of later taking the plea that the staff in-position are greatly in excess of requirements and therefore it is not possible to get either optimum production or results.
		The Committee also need hardly point out that incentive system of wages should be introduced right from the beginning after most careful study and in consultation with the workers so that there is in-built incentive for increasing production and efficiency.
		The Committee attached great importance to the organisation of training courses for workers and officers at various levels so as to give them a feeling of acquiring knowledge relevant to their vocation which would qualify them for promotion.
		The Committee also attach great importance to the organisation of refresher courses so that the knowledge of workers is kept up-to-date by exposing then to the latest developments and techniques of production. The Committee would stress that organisation of training courses/refresher courses should receive special attention of the Personnel Department as well as of top management so as to see that not only these courses are organised in a manner to best serve the interest of the industry but also to make for enthusiastic and willing participation by workers and officers at all levels.
56.	10·27 to 10·28	The Committee understand that the multiplicity of trade unions has led to inter-union rivalries adversely affecting industrial relations. The Committee also find that for quite some time the labour manage-

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		ment relations had not been cordial. There had been frequent demonstrations, leading to work stoppage and gherao etc. and as such the industrial relation and hence the production in the plants had been affected. The Corporation had lost 2172 man-days in 1968, 36973 man-days in 1969 and 3226 man-days in 1970. The Committee have dealt at length with the problem of management workers relations in their Report on 'Personnel Policies and Labour Management Relations in Public Undertakings' and would like to reiterate that the Corporation should spare no efforts to give the workers in the Undertakings a sense of participation and involvement in the challenging task of greater production for the good of the country. All disputes should be resolved through mutual discussion in order to come to an agreement.
57	10·35 to 10·37	The Committee are surprised to find that though the Corporation decided to relieve the Chief Security Officer on the basis of adverse comments made by Mr. Justice B. Mukherjee in his Report on the second fire accident in HEC in January 1964, subsequently the Chief Security Officer was transferred to the stores organisation of the Foundry Forge Plant and the Ministry were not even informed about this change in the decision. The Committee on Public Undertakings in their 14th Report on HEC Limited desired that the matter should be examined by the Ministry and suitable action taken. The Ministry have, however, held that it within the competence of the Corporation to transfer the officer from one project to another. The Committee do not share the opinion of the Ministry in this regard. The Committee would like to invite the attention of the Government to the recommendation/observation of the Committee contained in para 125 of their 14th Report on Heavy Engineering Corporation Ltd. where it was suggested that whenever special Enquiry Committees are set up by Government the action taken on the observation / recommendations of such reports should be watched by the Ministries concerned. In reply to this recommendation, Government have stated that "necessary instructions had been issued to the administrative Ministries/Department as desired by the Committee". The Committee reiterate that it was highly improper on the part of the Corporation to appoint the Chief Security Officer as Controller of Stores without informing the Government.
58.	11·15 to 11·16	The Committee find that the Corporation incurred a net loss of Rs. 75·88 lakhs in one year (1970-71) running the township. The Committee feel that the loss in maintaining the township is rather on the high side and steps should be taken to reduce the loss by raising the income on township, and adopting suitable measures to effect economy consistent with efficient service. The Committee share the views of Audit that in maintenance of records for assessment and recovery of rent leave there is much scope for

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		improvement. The Committee stress that loss due to lack of maintenance of the records and due to delay in the allotment of quarters should be avoided. The Committee find that in 1970-71 the expenditure in running the hospital was Rs. 38·56 lakhs. This appears to be on the high side. The Committee would suggest that the working of the hospital should be got examined by an expert body with a view to effecting economy wherever possible consistent with maintenance of reliable medical and hospital assistance to the employees.

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