

SI. NO. 167

336.54
C739
1981.02.25

राष्ट्रीय अभिलेखागार पुस्तकालय
NATIONAL ARCHIVES LIBRARY

भारत सरकार
Government of India
नई दिल्ली
New Delhi

आवक: Call No. 336.54 0739

अवधि: Acc. No. 136/92

MGIPF-412 NAL/79



**REPORT OF THE
COMPTROLLER AND AUDITOR GENERAL
OF INDIA**

UNION GOVERNMENT (COMMERCIAL)

1981

PART II

TUNGABHADRA STEEL PRODUCTS LIMITED

74

ERRATA

Para No.	Page No.	Line/Item No.	Reference	For	Read
7.06(b)	29	item D	Total output 1979-80	169	1695
7.07	36	—	Non ferrous casting—Total Cost 1975-76	6.19	6.17
10.03	47	item 4	Column 5	51.6	51.65
13.02	54	item 1 (iii)	Other Income	1.90	6.53
13.02	55	item 2	1973-74	249.98	240.98
13.02	55	Third line from bottom	—	rate of 6 percent going upto 15 percent fixed by the Bureau of exercising	Delete
13.02	55	last but one line	—	exercising	exercising
13.05	57	—	31-3-1975	46.57	45.57
13.05	57	—	31-3-1980	111.24	111.29
13.05	57	—	the age of the debts being	45.4	45.43
16.05	64	Third line	sub para (ii)	invariably	generally
16.09	66	line No. 8	Working Results	1977-78	1976-77
16.09	66	line No. 8	Working Results	0.6	3.6
16.09	66	line No. 10	Working Results	4	4.7
Annexure I	69	4th item	below Personnel Officer Industrial Relations Officer	LOW	LWO
Annexure II	71	item 1	Column 8	9668.96	6968.96
Annexure II	71	item 6	Column 15	355.28	35.28
Annexure IV	75	Column 11	Idle hours	10.30	11.30
Annexure IV	75	item (ii)/column 2	No material	5223	6223

REPORT OF THE
COMPTROLLER AND AUDITOR GENERAL
OF INDIA

UNION GOVERNMENT (COMMERCIAL)

1981

PART II

TUNGABHADRA STEEL PRODUCTS LIMITED

REPORT OF THE

COMMISSIONER FOR THE CENTRAL

INDIA

336.54
C739

प्रामाणिकतापुस्तकालय नं०
प्राप्तिसंख्या
Accession No. 134192
25.7.84.

TABLE OF CONTENTS

		PAGES
PREFATORY REMARKS		(iii)
<i>Paragraph No.</i>		
1	Introduction	1
2	Objectives	1—4
3	Organisational set up	4—7
4	Capital structure	7
5	Collaboration agreement	7—13
6	Expansion and diversification programme	13—18
7	Production performance	18—37
8	Sales performance	37—41
9	Estimation and costing	41—44
10	Profitability of orders executed	45—47
11	Machine utilisation	48
12	Man power analysis and labour productivity	48—51
13	Financial position, Working results and credit control	52—57
14	Inventory management	58—59
15	Financial management and internal audit	59—61
16	Overall summary	62—67
	Annexures	68—72

PREFATORY REMARKS

A reference is invited to paragraph 5 of the Prefatory Remarks contained in Part I of the Report of the Comptroller and Auditor General of India—Union Government (Commercial) 1981—wherein it was *inter alia* mentioned that the draft report on the working of Tungabhadra Steel Products Limited—an undertaking selected for appraisal by the Audit Board—was under finalisation. In this case, the Audit Board consisted of the following members :—

Sr Sri

1. T. Rengachari Chairman, Audit Board and *Ex-officio* Addl. Deputy Comptroller and Auditor General (Commercial) upto 29th February, 1980.
2. P. P. Gangadharan Chairman, Audit Board and *Ex-officio* Addl. Deputy Comptroller and Auditor General (Commercial) with effect from 1st March 1980.
3. K. S. Murthy Member, Audit Board and *Ex-officio* Director of Commercial Audit, Bangalore.
4. K. S. Rangamurthi Member, Audit Board and *Ex-officio* Director of Commercial Audit, Hyderabad.
5. R. S. Gahlout Consultant, Ex-Chairman & Managing Director, Hindustan Steel Works

INTRODUCTION

1.01 The Project for construction of a masonry dam across the river Tungabhadra at Mallapuram was taken up in February 1945 as a joint irrigation project of the Governments of Madras and Hyderabad. As part of the project a small workshop—the Tungabhadra Project Workshop, was set up at the dam site in 1947 mainly for repairing transport vehicles, maintaining equipment during construction period, and procuring, assembling and putting into operation plant and machinery required for the project.

1.02 In February 1959 the Governments of Andhra Pradesh and Mysore decided to manage the workshop as a joint venture. Accordingly, the Tungabhadra Steel Products Limited was incorporated as a Company on 20th February, 1960 with an authorised capital of Rs. 2 crores. The Company commenced business on 1st April 1960.

1.03 As the participating Governments were not in a position to invest the required capital to expand the activities of the Company, they requested the Government of India in 1965 to participate in the equity capital of the Company. In March 1967, the Government of India subscribed Rs. 51 lakhs towards 50.5 per cent of the share capital of the Company and thereby acquired a controlling interest in its management.

2. OBJECTIVES

2.01 In terms of a general directive issued by the Government of India in November 1970, the Management formulated in June 1972, a statement of objectives and obligations of the Company. The principal object of the Company is fabrication and erection of hydraulic gates, hoists, cranes and

penstocks for river valley projects, besides manufacture of storage tanks, pressure vessels, building structurals, transmission line towers and substation structures. It was also decided by the Board of Directors of the Company that the objective of the Company would be to achieve an annual production of about Rs. 3 to Rs. 3.5 crores in a period of 5 years and to earn a gross profit of 8 to 10 *per cent* on annual production and a return of 6 *per cent* on equity capital. According to a note approved by the Managing Director of the Company which formed the basis of the relevant agenda note for the meeting of the Board, 'gross profit' referred to pre-tax profit after deduction of interest and 'return on capital' referred to *post-tax* profit on equity capital.

The actual value of production and profit achieved during the last six years are shown below :—

Year	Pre-tax profit	Value of production	Return on value of production (percentage)	Paid-up Capital	Profit after tax	Return on paid-up capital (percentage)
(Rupees in lakhs)						
1974-75	6.76	267.63	2.53	120.50	6.76	5.6
1975-76	7.27	290.90	2.50	146.00	7.27	5.0
1976-77	15.51	457.65	3.39	146.00	15.51	10.6
1977-78	21.92	592.08	3.70	143.00	21.92	15.0
1978-79	24.05	685.70	3.50	146.00	13.35*	9.1
1979-80	8.67	660.53	1.31	146.00	3.92	2.7

*Provision for taxation was made for the first time in 1978-79.

It would be seen that while the Company achieved the objective regarding annual production, the return on capital was far below the objective of 6 *per cent* in 1979-80; the percentage of actual gross profit on value of production has been appreciably lower than the target of 8 to 10 *per cent*.

The objectives formulated by the Company in 1972 were approved by the Government of India. In May 1978, the

Government of India asked the Company to determine a set of coherent objectives which were in keeping with the nature of manufacturing activities envisaged and to send a comprehensive proposal re-defining these objectives.

2.02 The Board of Directors approved the following revised objectives in June 1980 :—

- (1) To continue to work as a commercial undertaking, to carry out present lines of manufacture relating to manufacture, supply, erect and commission equipment such as hydraulic structurals, gates with hoisting equipment, penstock pipes, transmission line towers, E.O.T. cranes, etc., on a larger scale in future and to assist in the development of irrigation and power potential of the country and to maintain a commanding and leading position in the area of design, manufacture and erection of the products undertaken by the Company.
- (2) To diversify the activities of the Company by taking up works such that the Company can also be a manufacturing organisation in addition to its being a contracting organisation as at present.
- (3) To take up further items of diversification with a view to ensure full and effective utilisation of the capacities and sustained growth.
- (4) To achieve an increase in turnover of the Company to maintain a growth of 15 per cent per year.
- (5) To give a fair return on the capital employed and to generate adequate internal resources, to finance the growth of the Company.
- (6) To improve the technological base of the Company's production progressively to enable the Company to move into the markets for manufacture of more

sophisticated items involving higher technological inputs and to undertake works involving export to foreign countries thus helping to earn foreign exchange.

- (7) To continue to improve the working conditions, attitudes and skills and career prospects of its employees.
- (8) To train and to develop competent managerial skills and personnel.

These were sent to the Ministry in November 1980; approval of the Ministry is awaited (May 1981).

3. ORGANISATIONAL SET UP

3.01 The Company is managed by a Board of Directors comprising five Directors nominated by the President of India and two each by the Governments of Karnataka and Andhra Pradesh. In terms of the Articles of Association, the Chairman of the Board of Directors and the Managing Director are appointed by the President of India.

3.02 At the instance of the Company, the National Productivity Council (NPC) made a detailed study during November 1971 to January 1972 of the then existing organisational structure of the Company with a view to improving its managerial and technical capabilities. NPC submitted its report in February 1972 which was placed before the Board of Directors in January 1974.

The deficiencies pointed out by NPC mainly related to (i) inadequate functional specialisation in respect of personnel management, production planning and control, industrial engineering, quality control and maintenance, (ii) insufficient coordination between Designs and Contracts branches (iii) lack of detailed planning and consideration for the sequence

of operations, time and resources needed and (iv) absence of cost control. While most of the recommendations were implemented between 1972 and 1974, some were implemented between 1976 and 1979. Two of the recommendations relating to merger of the Contracts and Designs Departments and placing of the Purchase Officer under the Managing Director were not accepted by the Management. The Board of Directors, however, decided in June 1980 that the Designs and Contracts Departments should be brought under the charge of a single manager on an experimental basis.

3.03 In July 1978 the Board constituted a committee consisting of the Chairman, the Managing Director and a Director to review the organisational structure and suggest changes for restructuring, if required. The Report of the committee was considered by the Board in September 1978 and again in March 1979, June 1979, and August 1979. The recommendations made by the Committee and the action taken thereon (as intimated by the Company in April 1981) are indicated below :—

Recommendations	Action taken
i) The Designs Department should be organised as a separate entity.	The Designs and Contracts Departments have been merged as an experimental measure so that the Designs personnel also will know the market conditions and contribute effectively for submitting competitive tenders (June 1980).
(ii) Present promotional opportunities to the internal candidates are to be improved.	The promotion quota for internal candidates has been increased (June 1980).
(iii) A clear cut job description, responsibility and authority should be spelt out for each post.	Job description and responsibility have been laid down.
(iv) Establishing coordination between :—	
(a) Designs and Contracts Departments and	The departments have been merged as an experimental measure.
(b) Planning and Production Departments.	Yet to be implemented.

- (v) Erection Department should be converted into a profit centre by undertaking works involving erection only in addition to erection of products manufactured by the Company. The recommendation has been noted.
- (vi) The functions of the General Manager should be defined more clearly. The delegation of powers to the Managing Director and various officers should be reviewed. Yet to be implemented.
- (vii) Introduction of an integrated costing and finance accounting system based on a system of daily reports. The present system is an integrated costing and finance accounting system and uses the same set of financial records for both costing and financial accounting. Booking to these records is also on the basis of daily labour booking reports and the daily drawal of materials for jobs. However, reporting to the management in respect of jobs for control purposes is done on monthly basis.
- (viii) Creation of a post of Public Relations Officer. Yet to be created.

3.04 The organisational structure of the Company as on 31st March, 1981 is indicated in Annexure I.

3.05 The post of Financial Adviser and Chief Accounts Officer of the Company remained vacant for 29 months (1) from 31st July, 1973 to 30th April, 1974 (2) from 22nd November, 1974 to 1st November, 1975 and (3) from 10th July, 1976 to 1st March, 1977. The Management stated (January 1980) that the post remained vacant during certain periods when the incumbents reverted to their parent departments on promotion or left the Company on securing better jobs elsewhere. During the periods when the post was vacant the work was stated to have been carried on by the Senior Accounts Officer who was placed in charge of the duties of the Financial Adviser and Chief Accounts Officer also.

3.06 The post of part time Chairman was vacant from 1st October, 1978 to 31st August, 1979 and again from 1st January, 1981.

The posts of Manager, Designs and Secretary-cum-Chief of Personnel have also remained vacant from 7th June, 1977 and 28th February, 1979 respectively to date (March 1981).

4. CAPITAL STRUCTURE

4.01 The authorised and paid up capital of the Company at the end of March 1980 were Rs. 200 lakhs and Rs. 146 lakhs respectively, subscribed by the Government of India (Rs. 74 lakhs) and the State Governments of Karnataka and Andhra Pradesh (Rs. 36 lakhs each). During 1979-80, the Governments of Karnataka and Andhra Pradesh had advanced Rs. 13.50 lakhs each towards share capital for which shares are yet to be issued (March 1981) pending receipt of matching contribution from the Government of India. The contribution from the Government of India amounting to Rs. 27 lakhs was received in March 1981.

4.02 The Company obtained a total loan of Rs. 120.50 lakhs from the Government of India upto 31st March, 1980. Out of Rs. 84.86 lakhs due for repayment an amount of Rs. 12 lakhs only had been repaid upto 31st March, 1980.

4.03 The delay in repayment of instalments of loan and interest is stated to be due to the difficult financial position of the Company.

5. COLLABORATION AGREEMENT

5.01 *Original Agreement*

Prior to acquiring controlling interest in the Company by the Government of India in March 1967, the Company entered into an agreement on 9th November, 1962 with M/s. Establishment Neyrpic (hereinafter called 'Neyrpic') of France for

a period of 7 years with a view to utilising Neyrpic patents in India and to have technical information and advice for design and manufacture of high-head hydraulic gates, special types of trash racks, trash rack rakes and their corresponding operating equipment. The agreement, *inter alia*, provided for the following :—

- (i) Preliminary technical assistance by Neyrpic in the preparation of tenders for equipment.
- (ii) Normal technical assistance after the orders had been secured.
- (iii) Training concerning design, manufacture, testing and other allied operations involved in the manufacture of equipment covered by the agreement in the work of Neyrpic, to the employees of the Company for a total period not exceeding 36 man-months.

For the preliminary and normal technical assistance, the Company was required to reimburse to Neyrpic engineering expenses at specified rates in pound sterling with reference to the value of tenders submitted and the orders secured. In addition, royalty at specified rates based on the ex-works prices of each finished equipment supplied by the Company to its clients, was also payable in pound sterling to Neyrpic in consideration of the licence to be granted by them.

5.02 *Extension of the Original Agreement*

As the Company could not build up its own competent design organisation with full expertise for design of complex hydraulic structurals during the currency of the original agreement, it was extended for a further period of 5 years (9th November, 1969 to 8th November, 1974). The extended agreement while

excluding certain sizes of equipment from its scope in view of the know-how already acquired under the original agreement, covered technical assistance for 3 additional items, viz., hydraulic hoists, butterfly valves and needle valves not forming part of turbines, hollow jet valves and other special hydraulic equipment. It was also expected that with the help of a reputed organisation like Neyrpic, the Company might be able to compete successfully in global tenders invited by foreign countries.

5.03 In terms of the agreement the Collaborators were required to train the Company's technicians deputed for training in their works for 36 man-months each during the original and the extended periods of the agreement. However, the Company deputed its employees for a total period of 19.5 man-months (3 months during the original and 16.5 months during the extended period) which was not considered adequate to build up expertise in the design and manufacture of high head gates. In this connection, the Board of Directors at their meeting held in November 1974 had observed as follows :—

“The Company was able to send its engineers to Neyrpic in France only recently, i.e. at the end of the Collaboration Agreement. This training for a short time is not adequate to build up expertise in the design, manufacture of High Head Gates that in view of these considerations attempts should be made to enter into a collaboration agreement with a foreign firm.”

The Company stated (April 1979) that “it is not possible to get a collaborator who will give only designs and drawings as hydraulic gate is a tailor made item and not a consumer product”. Attempts made to secure collaboration with other foreign firms have not so far been successful (March 1981).

5.04 The table below gives details of the number of cases in which technical assistance was obtained by the Company from

the Collaborators under the agreement, the engineering expenses

Tenders submitted

With the assistance of Collaborators				Without the assistance of Collaborators	
Nos.	Value (Rs. in lakhs)	Engineering expenses reimbursed/reimbursable (Rs. in lakhs)	Nos.	Value (Rs. in lakhs)	
1	2	3	4	5	6
<i>Hydraulic Gates</i>					
9-11-62 to 8-11-69 .	14	585.74	2.20	13	323.74
9-11-69 to 8-11-74 .	1	19.95	0.08	24	1379.93

reimbursed and the royalty paid/payable :—

Execution of orders					Royalty	
With the assistance of Collaborators involving payment of engineering expenses			With the advice of the Collaborators not involving payment of engineering expenses		Value of equipment manufactured	Royalty paid/payable
Nos.	Value (Rs. in lakhs)	Engineering expenses reimbursed/reimbursable (Rs. in lakhs)	Nos.	Value (Rs in lakhs)	(Rs. in lakhs)	
7	8	9	10	11	12	13
8	323.46	6.38	..	..	382.48	13.07
1	19.95	0.31	3	285.82	755.75	23.96

5.05 No assistance was obtained by the Company in respect of special types and sizes of trash racks, trash rack rakes, butterfly valves and needle valves not forming part of turbines and hollow Jet valves, as no enquiries were received by the Company for these products. Even in respect of hydraulic gates, the Company stopped taking help from the Collaborators for submission of tenders after 1968-69. Out of 17 orders executed against tenders submitted after 1969-70, assistance of the Collaborators was obtained only in one work valued at Rs. 19.95 lakhs, involving re-imbusement of engineering expenses. In three other cases, the advice of the Collaborators was obtained free of cost. In the remaining 13 cases, no assistance of any kind was obtained from the Collaborators during the extended period of collaboration. However, under the terms of the collaboration agreement, royalty of Rs. 23.96 lakhs was paid on all the orders executed during the currency of the agreement.

The Company stated (April 1979) as follows :—

“The clients fix the size of the gate and give the technical details regarding head etc., and the Company has to finalise the design to suit the data given by the clients. Hence the Company does not have control on the number of works that will be covered in the collaboration agreement. This is the reason why the assistance from Collaborators varied and got reduced over the years. Further, it will also be seen that the reliance on the foreign Company for submitting quotations was got reduced progressively.”

The Management further stated (April 1981) that the extension of the collaboration agreement enabled the Company to draw the attention of the prospective customers to the continued assistance of Neyrpic which influenced the award of the contracts in its favour; the Company could also avail itself of the advice of the Collaborators to sort out specific problems in the case of 5 orders valued at Rs. 588.90 lakhs. It was, however, noticed

that out of these 5 orders, though 2 orders valuing Rs. 303.08 lakhs, were secured during the extended period of the agreement, the advice of the Collaborators had been obtained during the currency of the original agreement. These cases would not have attracted payment of royalty if the collaboration agreement had not been extended. Thus, in effect, the Company got the benefit of the advice of the Collaborators only in 4 cases valuing Rs. 305.77 lakhs. In view of this, the royalty payments made to the Collaborators during the extended period were not commensurate with the benefits derived by the Company.

5.06 So far as global tenders are concerned, the Company submitted only one quotation in September 1969 for a project in Cambodia which, however, did not materialise into an order; under the agreement the Company could submit quotations for works in Ceylon, Burma, Malaya, Nepal, Indonesia and Thailand in competition with the Collaborators and in other countries with their concurrence.

6. EXPANSION AND DIVERSIFICATION PROGRAMME

6.01 After the decision of the Government of India to participate in the equity capital of the Company was communicated in December 1965, the Board of Directors considered at an informal meeting held in May 1966 various proposals for expansion (including acquisition of land for the shifting of workshops). It was decided that, in the first instance, production should be stepped up to the licensed capacity and should comprise roughly one third of each of (a) light structurals such as transmission towers, trusses, etc., (b) heavy structurals like penstock pipes, hydraulic gates and (c) standard products of repeat nature which could be put on the market, such as cranes, pressure vessels, etc. It was also considered desirable to appoint a Technical Committee to examine the then existing capacity of the workshops and to suggest new lines of manufacture, particularly repeat items and standard products which could be marketed on commercial lines.

6.02 The Technical Committee appointed in May 1967 felt (November 1967) that in view of the general condition of recession then prevailing in the engineering industry, a long term expansion programme might be taken up towards March/April 1968. In the meantime, the Committee recommended that in addition to equipment already being manufactured, the Company might take up the following lines of manufacture :—

(1) *Transmission line towers :*

It was considered to be a fruitful source of business in view of the numerous hydro-electric projects in the country. For this purpose, expeditious commissioning of galvanising plant was considered essential.

(2) EOT Cranes of 5 tons, 10 tons and 15 tons capacity of the Company's own designs.

(3) High and low pressure gas cylinders.

(4) Coal and Ore tubs and coal washing and ore handling plants.

(5) Towers and structurals for rope ways.

The prospective customers should be contacted to ascertain their requirements before the manufacture of these items was taken up.

6.03 According to the Company (February 1973), manufacture of the products mentioned at items (3), (4) and (5) above could not be taken up, as no orders could be secured from customers who were contacted and, therefore, the Management did not consider setting up any facilities for these items. The manufacture of transmission line towers, was taken up in December 1968 following the commissioning of the Galvanising Plant in November 1968 at a cost of Rs. 13.36 lakhs. The manufacture of cranes of the capacity mentioned above and other types of cranes was taken up after March 1968.

6.04 The factory buildings of the Company which were situated on an area of 9 acres of land leased by Tungabhadra Board, had limited accommodation. In addition, the buildings being located between two canals running at different levels, the shops were liable to get waterlogged during rainy season, particularly the structural shop which invariably got flooded for some days in the year resulting in stoppage of work.

6.05 The following plans for overcoming the above limitations and for expansion and diversification of production were considered by the Company in February 1971 :

- (i) Shifting of shops to a new site of 88.75 acres of land acquired in 1966/1970.
- (ii) Construction of shops on modern lines.
- (iii) Purchase of new items of machinery for expansion and diversification of production.

A total capital outlay of Rs. 104 lakhs (including foreign exchange component of Rs. 11 lakhs) was envisaged on these plans as indicated below :—

- (a) Shifting of the factory to new site and construction of new sheds—Rs. 62 lakhs.
- (b) Purchase of machinery—Rs. 42 lakhs.

The Scheme was approved by the Government of India in April 1972.

6.06 Out of the total outlay of Rs. 104 lakhs required for the expansion scheme, it was proposed to meet Rs. 14 lakhs from the amount contributed by the Government of India in March 1967 towards share capital and the balance of Rs. 90 lakhs to be financed by way of loan and/or equity capital by the participating Governments.

6.07 The following table indicates the expenditure incurred on the scheme upto the end of 31st March, 1980 and the sources of funds :—

(Rupees in lakhs)

Sources		Expenditure	
Share capital subscribed by the Government of India and State Governments.	45.00	Construction of new shops and shifting	98.75
Loans from Government of India.	40.50	Plant and machinery	39.21
Borrowings from Bank (under IDBI Scheme)	16.60		
Internal resources	35.86		
	<u>137.96</u>		<u>137.96*</u>

*Includes interest of Rs. 7.99 lakhs on borrowed amounts capitalised.

6.08 According to the proposal sent to the Government of India while seeking their sanction, the entire scheme was to be completed by 1973-74. A detailed programme was drawn up in February 1972 by the Company for construction and shifting of the shops and according to this the scheme was to be completed by December 1973. However, the actual shifting of the shops (i.e. Heavy Structural shop, Machine shop and Foundry) to the new site was completed only by March 1979 except for the stress relieving furnace which forms part of the Heavy Structural shop. The delay in completing the shifting etc., has been attributed by the Company to (1) non-availability of steel sections, (2) shortage of cement, (3) delay in soil testing, (4) priority given to completion of orders for which delivery commitments had been made to customers, (5) ban on construction of administrative buildings, (6) delay in taking up the railway siding by the Railway Authorities and (7) time involved in obtaining the release of funds from the participating

Governments. In addition, the delay has also been ascribed to the difficult financial position of the Company and arranging for the shifting in such a way as not to affect the current production seriously.

6.09 At the instance of the Government of India, a revised Project Report for the scheme involving an expenditure of Rs. 160 lakhs was drawn up and approved by the Board of Directors in August 1980. Approval of the Government of India for the revised Project Report is awaited (March 1981).

6.10 The Company's capacity as per the proposals sent to the Government of India, was expected to increase from 4,500 MTs to 7,500 MTs after the existing factory was shifted to the new site and expanded. The work of shifting of the factory to the new site has almost been completed and the Company has now tentatively estimated the available capacity as 8,500 MTs. The Company stated (April 1979) that NPC had been assigned the task of calculating the correct installed capacity [refer also para 7.03(ii)]. NPC submitted its report in February 1981 which is to be considered by the Board (March 1981).

6.11 In view of the heavy competition in gates and transmission line towers, the Company was considering diversification of its activities further. In November 1978, a Product Development Manager was appointed to develop, fabricate and test new products, on contract basis for a period of three years. The work of developing solar heaters and refrigerators working on solar energy was taken up by the Product Development Manager. A collector for solar energy was designed and patented and the Company was proposing to manufacture and sell 1,200 sq. metres of collectors costing Rs. 12 lakhs in 1980-81. The Company produced 104 Sq. metres of Solar Collectors in 1980-81 valuing Rs. 1.04 lakhs, out of which

72 Sq. metres valued at Rs. 72,000 were sold upto 31st March, 1981.

7. PRODUCTION PERFORMANCE

7.01 The Company has two major shops viz. the Structural shop and the Machine Shop. It has also a Galvanising Plant commissioned in November 1968 at a cost of Rs. 13.36 lakhs for galvanising transmission towers and structurals required by the State Electricity Boards, besides a foundry and other supporting facilities. No separate capacity for the Structural and Machine shops has been fixed by the Management since the work of the two shops are to be taken together.

7.02 The Company manufactures steel (hydraulic and building) structurals, penstocks, cranes and hoists and transmission towers and also undertakes erection work at site against specific orders received from customers. The licensed capacity of the Company prior to the financial participation by the Government of India was as given below :—

(i) Gates and structurals including towers	4000 tonnes/annum
(ii) Penstocks	3000 tonnes/annum
(iii) Grey Iron castings	500 tonnes/annum
(iv) Cranes	Rs. 18 lakhs to Rs. 24 lakhs per annum.

The capacity for item (i) above was increased to 10,000 tonnes per annum in January 1972.

7.03 The table below indicates the licensed capacity, installed capacity, budgeted production and actual production of structurals (hydraulic structurals, transmission towers, sub-stations, other steel structures, penstocks and pressure

vessels) for the years 1967-68 to 1979-80 :—

Year	Capacity		Production			Percentage of		
	Licenced	Installed	Original Budget	Revised Budget	Actuals	Actual production to installed capacity	Actual production to original budget	Actual production to revised budget
	(in tonnes)							
1	2	3	4	5	6	7	8	9
1967-68	7000	3000	3200	N.A.	748	25	23	..
1968-69	7000	6000	3925	N.A.	1019	17	26	..
1969-70	7000	6000	4240	N.A.	2782	46	66	..
1970-71	7000	6000	2506	N.A.	2230	37	89	..
1971-72	7000	6000	2216	N.A.	2418	40	109	..
1972-73	13000	6000	3519	4200	4546	76	129	108
1973-74	13000	6000	5175	4408	3950	66	76	90
1974-75	13000	4500	5504	4223	4364	97	79	103
1975-76	13000	4500	5073	4574	4191	93	83	92
1976-77	13000	8500	5244	8061	6619	78	126	82
1977-78	13000	8500	10893	10893	10674	126	98	98
1978-79	13000	8500	18233	17986	13772	162	76	77
1979-80	13000	8500	13699	9046	10430	123	76	115

N.A. = Not available.

In this connection, the following facts are mentioned :

- (i) Increase in the installed capacity in 1968-69 from 3000 to 6000 MT was due to addition of Light Structural shop, the estimated capacity of which was 3000 MT. But subsequently in 1974-75 the capacity of the Light Structural shop was re-assessed as 1500 MT and hence the installed capacity revised from 6000 to 4500 MT. However, from the records made available to Audit it was seen that the re-assessment of the capacity was not placed before the Board for its approval. It was noticed that in spite of this reduction in the installed capacity, the budgeted production during 1974-75 and 1975-76 was more than the production during the previous two years (1972-73 and 1973-74) when the installed capacity was taken to be 6000 MT.
- (ii) The increase in the installed capacity in 1976-77 was due to completion of the expansion scheme. The increased capacity available was assessed broadly pending accurate assessment. NPC was assigned the task of calculating the correct installed capacity. NPC submitted its report in February 1981, but this is yet to be considered by the Board (March 1981).
- (iii) Both the original and the revised budgets took into account the work to be got done by sub-contractors, but the break-up showing the Company's own production and that by sub-contractors was not available upto 1976-77.

(iv) The actual production during the last three years included a substantial portion of work done by the sub-contractors as per details given below :—

Year	(Production in tonnes)		
	Total	Sub-contractors	Percentage
1977-78	10,674	3,752	35.15
1978-79	13,772	6,887	50.01
1979-80	10,430	3,573	34.26

(v) If the work done by the sub-contractors was eliminated, the actual production and its percentage to installed capacity would be as follows :—

Year	Actual production	Percentage of actual production to installed capacity
	(M.T.)	
1977-78	6,922	81.43
1978-79	6,885	81.00
1979-80	6,857	80.67

The reasons for short-fall in production during the last seven years were stated to be :—

- non-receipt/availability of required steel sections, oxygen & acetylene gas. 1973-74 to 1979-80
- delays in model studies and cancellation of an order by a customer. 1973-74
- power cut and breakdown of machinery. 1974-75
- undertaking fabrication of parts which required more time. 1975-76
- financial constraints due to credit restrictions imposed by the Reserve Bank of India. 1979-80

Upto 1973-74 and during 1976-77, the budgeted production was less than the installed capacity.

While fabrication through outside agencies would help the Company in improving its financial position it might not be a long-term solution, unless the Company was able to ensure utilisation of the capacity to its optimum economic level. This could be achieved only through an organised thrust on :

- market survey of the demand in respect of its products and alternative items which could be fabricated with the existing facilities in the workshop.
- increase in production through planned availability of raw-materials.
- optimisation of production through incentives.
- minimising wastage of raw-materials and inputs, machine hours and man hours.

The Management stated (April 1981) that sub-contracting was being resorted to only in respect of fabrication of towers which was of a less intricate nature, keeping in view the delivery commitments to the customers and non-receipt of steel sections in an even flow.

7.04 *Cranes and Hoists*

The Company had fixed the capacity for cranes and hoists only in monetary terms instead of physical units. This could be quite misleading due to inflation in prices. The following

table gives the figures of budgeted and actual production as against the licenced and installed capacity from 1967-68 to 1979-80 :—

Year	Capacity		Production		Percentage of actual production to budgeted production
	Licensed	Installed	Budgeted	Actual	
	(Rs. in lakhs)				
1	2	3	4	5	6
1967-68			24.50	24.36	99.4
1968-69			28.60	9.92	34.7
1969-70			30.69	18.20	59.3
1970-71			33.24	17.29	52.0
1971-72			38.61	37.55	97.2
1972-73			56.76	57.80	101.8
1973-74			63.76	74.16	116.3
1974-75			61.72	55.86	90.5
1975-76			59.00	70.44	119.4
1976-77			26.38	13.15	49.9
1977-78			11.36	25.03	220.3
1978-79			3.54	2.98	84.2
1979-80			11.31	1.83	16.2

As the installed capacity figures have not been updated to bring it to the level of current prices, the actuals are not comparable with the installed capacity.

The shortfall in production in 1976-77, 1978-79 and 1979-80 was on account of delay in receipt of castings and other components from suppliers.

It was explained by the Management during discussions that the low budgeted production during the last four years was on account of change in customers' preference following technological improvements. This would show that the Company had not kept pace with the developments in the technological fields with consequent shrinkage in the market share of the Company in regard to cranes. The Management stated (April 1981) that they were now quoting for EOT cranes with higher capacity and

sophisticated equipment for speed and tandem operations. The response to the quotations, however, continued to be poor.

7.05 Building Structural

The following table gives the budgeted and actual production of building structurals fabricated at erection sites from 1967-68 to 1979-80 :—

Year	Production		Percent- tage Col. 3 to Col. 2	Shortfall/ excess
	Budgeted	Actual		
1	2	3	4	5
	M.T.			%
1967-68	400	..	..	..
1968-69	1875	1286	68.6	(-)31.4
1969-70	2300	1110	48.3	(-)51.7
1970-71	1245	1271	102.1	(+)2.9
1971-72	1582	650	41.1	(-)58.9
1977-78	705	519	73.6	(-)26.4
1978-79	300	411	137.0	(+)37.0
1979-80	1187	1187	100.0	..

NOTE : No fabrication work of building structurals was done at erection site during the period 1972-73 to 1976-77.

It would be seen that there was shortfall in production as compared to budget ranging from 58.9 per cent in 1971-72 to 26.4 per cent in 1977-78 except during 1970-71, 1978-79 and 1979-80 when production equalled/exceeded the budget. The shortfall in production in 1977-78 was stated to be due to labour trouble at site (Kudremukh) and shifting of production to be done at site to headquarters.

7.06 Galvanising Plant

A Galvanising Plant with an installed capacity of 3000 MT per annum on single shift basis and 8000 MT on 3 shift basis was commissioned in November 1968 as against the scheduled date of March 1965 at a cost of Rs. 13.36 lakhs.

(a) *Utilisation of capacity*

The production performance of the Plant for the years 1969-70 to 1979-80 is indicated in the following table :—

Year	Licensed capacity (in tonnes)	Installed capacity	Production (In tonnes)			Percentage		
			Budgeted (Original)	Revised	Actual	Col. 6 to Col. 3	Col. 6 to Col. 4	Col. 6 to Col. 5
1	2	3	4	5	6	7	8	9
1969-70	8000	3000	1500	1140	48	1.6	3.2	4.2
1970-71	8000	3000	300	525	437	14.6	145.7	83.2
1971-72	8000	3000	500	..	783	26.1	156.6	..
1972-73	8000	3000	1060	1130	273	9.1	25.7	24.16
1973-74	8000	3000	1430	1186	1072	35.7	75.0	90.39
1974-75	8000	3000	1655	953	740	24.6	44.7	77.65
1975-76	8000	3000	1551	1399	1088	36.3	70.1	77.77
1976-77	8000	3000	1757	2512	2732	91.1	155.5	108.75
1977-78	8000	3000	4250	..	1485	49.5	34.9	..
1978-79	8000	3000	3000	..	165	5.5	5.5	..
1979-80	8000	3000	3086	2326	1695	56.5	54.9	72.9

Licensed capacity is on 3 shift basis and installed capacity on one shift basis.

It would be seen that the budgeted production was very much lower than the installed capacity upto 1976-77; in some years it was as low as one sixth and generally about half. The actual production was also much below the budgeted production except for the years 1971-72 and 1976-77. The reasons for shortfall in production as compared to budget was stated to be the same as indicated in para 7.03 for structurals. The shortfalls during 1974-75, 1975-76, 1977-78 and 1978-79 were, in addition also due to the following :—

- | | |
|---------|--|
| 1974-75 | <ol style="list-style-type: none"> 1. Break down of machinery and power cut (September 1974). 2. Crane repairs (December 1974 and February 1975). 3. Non-availability of zinc. |
| 1975-76 | <ol style="list-style-type: none"> 1. Non-availability of hydrochloric acid and furnace oil (April and May 1975). 2. Dislocation of fire bricks inside the furnace resulting in non-building up of temperature (July 1975 and January 1976). 3. Repairs to burners (July 1975 and January 1976). 4. Weak acid (July 1975). |
| 1977-78 | <ol style="list-style-type: none"> 1. Shut-down of Plant for maintenance. 2. Re-organisation of works to take up Kudremukh works. 3. Insufficient work load. |
| 1978-79 | Insufficient work load. The plant worked only for 78 days during the year. |

The Galvanising Plant of a capacity of 3000 tonnes on single shift basis was set up to take up the work of galvanisation of transmission towers and structurals for the fabrication of which a Light Structural shop of a capacity of 3000 tonnes on two-shift basis was created in the factory. The Galvanising Plant of 3000 tonnes capacity in one shift was considered to be an economic unit. In this connection the following points are relevant :—

- (a) The entire output of the Light Structural Shop does not require galvanising;
- (b) The capacity of the Light Structural shop on two shift basis had been assessed as 3000 tonnes; and
- (c) Since galvanising is a continuous process, the capacity of galvanising plant should ordinarily be assessed on three shift basis.

According to the Management, the maximum length of the members to be galvanised determined the length of the galvanising bath which in turn depended on the capacity of the plant. Accordingly, the length of the bath was determined as 9.5 metres and taking this into account, a plant with a capacity of 3,000 tonnes in single shift was set up. Since the capacity of the Galvanising Plant was thus not related directly to the capacity of the Light Structural shop, there was an imbalance between the capacities of the two shops even from the initial stages and this led to considerable under utilisation of the galvanising capacity. The Company stated (June 1980) that this was now sought to be reduced by increasing the capacity of the Light Structural shop if required and securing outside orders for galvanising even on the basis of marginal cost.

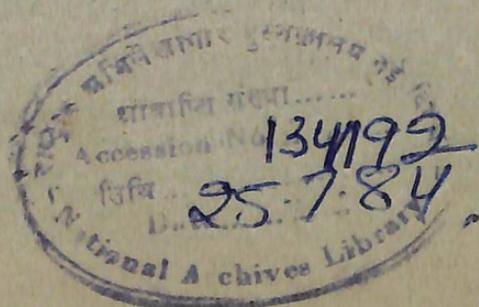
(b) WORKING OF THE PLANT

The following table shows the cost of galvanising per tonne

Sl. No.	Elements of cost	1974-75		1975-76		1976-
		Value (Rupees)	Cost per tonne	Value (Rupees)	Cost per tonne	Value (Rupees)
1	2	3	4	5	6	7
A.	Direct labour .	32496	43.92	49000	45.04	52256
B.	Material—					
	(i) Zinc .	746562	1008.87	1580116	1452.31	2551050
	(ii) Other materials	158118	213.67	250681	230.40	498272
C.	Over heads :					
	(i) Depreciation—					
	(a) Plant & Machinery	108648	146.81	186451	171.38	119036
	(b) Buildings .	11396	15.40	11036	10.14	11036
	(c) Others .	1489	2.01	3085	2.84	7788
	(ii) Other Over-heads .	183792	248.37	255966	235.26	399229
	Total Overheads	305325	412.59	456538	419.62	537089
	Total cost (A+B+C) .	1242501	1679.05	2336335	2147.37	3038667
D.	Total Output (MT)	740		1088		2732

of structurals for the six years ending 31st March 1980.

77	1977-78		1978-79		1979-80		
	Cost per tonne	Value (Rupees)	Cost per tonne	Value (Rupees)	Cost per tonne	Value (Rupees)	Cost per tonne
8	9	10..	11	12	13	14	
19.13	63573	42.81	21190	128.42	132049	78	
933.77	1324769	892.10	351181	2128.37	1225011	722	
182.38	320301	215.69	110649	670.60	348521	206	
43.57	95055	64.01	95055	576.09	75935	45	
4.04	11036	7.43	11036	66.89	10445	6	
2.85	17020	11.46	17020	103.15	..	..
146.11	278606	187.61	171523	1039.53	342134	202	
196.57	401717	270.52	294634	1785.66	428514	253	
1331.85	2110360	1421.12	777654	4713.05	2134195	1250	
	1485		165		169		



It would be seen that cost of galvanising was the highest in the year 1978-79. This was mainly attributable to :

- increase in the consumption of zinc per tonne although the price of zinc was the lowest as compared to the earlier years,
- very low production during the year and
- intermittent working of the zinc bath.

The Management stated (April 1981) that the very high consumption of zinc during 1978-79 was investigated and found to be due to rectification work which involved redipping and galvanising of about 15 tonnes of bolts and nuts which consumed more zinc. They contended that the utilisation of zinc bath during 1978-79 being very low, the figures for this year should not be taken for comparison purposes.

(c) *Excess consumption of zinc*

The table below shows the weight of structurals galvanised, estimated consumption of zinc, actual weight of zinc consumed, consumption of zinc in excess of the estimates and the cost thereof for the six years ending 31st March, 1980 :—

Sl. No.	Particulars	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
1	2	3	4	5	6	7	8
1.	Weight of structurals galvanised (MT)	740	1088	2732	1485	165	1695
2.	Actual gross input (MT)	113	133	284	149	51	141
3.	Zinc in dross and ash (MT)	69	61	144	93	31	76
4.	Net consumption (2-3) i.e. deducted weight of zinc crating (MT)	44	72	140	56	20	65

1	2	3	4	5	6	7	8
5. Net zinc consumption per MT of structurals galvanised (4 divided by 1) (Kgs.)		59	66	51	38	120	38
6. Net estimated consumption of zinc (MT)		33	49	123	67	7.4	76
7. Consumption in excess of estimates (4-6) (MT)		11	23	17	(-)11	12.6	(-)11
8. Value of zinc consumed in excess of estimated quantity (Rs. in lakhs)		1.37	3.69	2.5	(-)1.6	1.5	(-)1.4

NOTE : The net estimated consumption of zinc has been worked out at 45 Kgs./MT on the basis of consumption of zinc of 70 Kgs. and recovery of 30 Kgs. of dross and ash per MT as estimated by the Company for purposes of quotation. The zinc in dross and ash is calculated at 92.2 per cent and 70.5 per cent purity respectively on the basis of an analysis got done by the Company. The recovery of dross and ash is taken in the ratio of 2 : 1. The dross and ash obtained during the years 1974-75 to 1979-80 were 81, 72, 172, 107, 34 and 89 MT respectively.

The net total loss due to excess consumption of zinc during the six years worked out to Rs. 6.06 lakhs.

The problems of excess consumption of zinc and formation of excessive dross and ash had been referred to the Indian Hot Dip Galvanisers Association in September-October 1976. Based upon the visit of their expert to the Plant in December 1976 a report was submitted by the Association to the Company in February 1977.

The report contained several recommendations aimed at bringing down the excess coating by suitably controlling the process parameters such as bath temperature and dipping time as well as reducing process losses in the form of dross and ash etc.

The Ministry stated (June 1980) that "..... various steps have been taken over the years to have a better control over the temperature of the bath, the picking bath as also to improve the handling efficiency of the parts galvanised".

(d) *Disposal of dross and ash*

Upto September 1980 the Company was disposing of the dross and ash collected in the galvanising plant periodically by inviting limited tenders instead of open tenders without fixing any reserve price for disposal of dross and ash on the basis of zinc content. The zinc content was also not being indicated in the tender notices. After these defects were pointed out to the Company by Audit, the Company has started advertising the sale of dross and ash in newspapers indicating the zinc content and is also fixing a reserve price on each occasion, from September 1980 onwards. The Company had not also been disposing of the collections of dross and ash at regular intervals *i.e.* every quarter or half year.

The following table indicates zinc content in dross and ash calculated at 92.2 per cent for dross and 70.5 per cent for ash, average price of zinc as at the end of the year and the average price realised per tonne of zinc in dross and ash during the years 1974-75 to 1979-80 :—

		(In tonnes)					
		1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
1	2	3	4	5	6	7	8
1.	Total consumption of zinc (gross)	113	133	284	149	51	141
2.	Actual dross and ash obtained :						
	Dross	55	46	106	83	30	62
	Ash	26	26	66	24	4	27

1	2	3	4	5	6	7	
3. Zinc content in dross and ash obtained :							
Dross (92.2%)	.	51	42	98	76	28	57
Ash (70.5%)	.	18	19	46	17	3	19
4. Average price of zinc as on 31st March (Rs. per MT)							
		12499	16049	14837	14665	11927	12682
5. Average price realised per tonne of zinc in dross and ash : (Rupees)							
Dross	.	11139	10250	11578	9775	10412	11102
Ash	.	5816	6540	9380	9222	9760	9221
6. Weighted average price realised per tonne of zinc in dross and ash (Rupees)							
		9750	9094	10876	9674	10349	10632
7. Weighted average price realised as a percentage of average price of zinc (Rupees)							
		78.0	56.7	73.3	66.0	86.8	83.8

It would be seen that except in 1978-79 and 1979-80 the realisation from the sale of dross and ash was low with reference to the price of the zinc content. The Ministry stated (June 1980) that the prices of dross and ash are purely governed by the market for these items and cannot be in direct proportion to the zinc content. It may be mentioned that giving wide publicity through newspapers and fixing a reserve price and selling the accumulation in small lots would have enabled the Company to get a better price as is evident from the response which the Company received to its press advertisement in November 1980, when the Company obtained a price of Rs. 10,761 per MT of dross on this occasion as against the price of Rs. 9110 got in response to the earlier limited tender issued in September 1980.

7.07 Foundry

A grey iron foundry with a capacity of 500 tonnes per annum was set up before the Tungabhadra Work-shop was converted into a Company on 20th February, 1960. The internal requirement of ferrous and non-ferrous castings is met by the foundry while steel castings are purchased from outside sources.

The actual utilisation of installed capacity of the foundry, input, output and melting loss during 1967-68 to 1979-80 are indicated in the following table :—

(Figures in tonnes)

Year	Installed capacity	Input	Output*	Melting loss	Percentage of melting loss to input	Percentage of output to installed capacity
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1967-68			Not available			
1968-69	500	39.08	35.26	3.82	9.8	7.05
1969-70	500	73.44	66.77	6.67	9.1	13.35
1970-71	500	59.37	53.56	5.81	9.8	10.71
1971-72	500	107.30	101.78	5.52	5.1	20.36
1972-73	500	148.85	140.26	7.59	5.1	28.05
1973-74	500	97.62	92.05	5.57	5.7	18.41
1974-75	500	203.86	185.16	18.70	9.2	37.03
1975-76	500	219.86	199.99	19.87	9.01	40.00
1976-77	500	167.97	153.03	14.94	8.9	30.61
1977-78	500	167.25	152.73	14.52	8.7	30.55
1978-79	500	129.26	119.50	9.76	7.6	24.10
1979-80	500	239.09	219.06	20.05	8.4	43.81

*Includes ferrous, non-ferrous and other miscellaneous castings.

NOTE : Data for 1968-69 to 1971-72 do not include those for non-ferrous castings as the same are not available with the Company. The output of non-ferrous castings during 1971-72 was 24.12 tonnes and has not been included in the above data as the corresponding figure of input is not available.

No norms have been laid down by the Company for melting loss. The melting loss varied from 5.1 per cent (in 1971-72 and 1972-73) to 9.8 per cent (in 1968-69 and 1970-71); this being less than 10 per cent was considered reasonable by the Management.

The foundry has been catering only to the internal needs of the Company and no efforts had been made to secure outside orders to ensure better utilisation of installed capacity. Even when maximum output was achieved in 1979-80 the capacity utilisation was only 44 per cent.

The low utilisation of foundry capacity was attributed by the Management to (i) use of steel castings (purchased from market) for hoists for which grey iron castings could not be used as these did not have enough strength, (ii) production of a large number of parts of small unit weight (both grey iron and non-ferrous castings) and (iii) limitations of space and men.

The foundry was shifted to the new site in February 1979 and consequently the constraint of space no longer exists. The Company stated (April 1979) as follows :—

“Company is now quoting for jobs involving grey iron castings and wants to utilise the capacity by securing orders from outside. It is also proposed to provide the foundry with necessary equipment and men and ensure proper quality of the castings. A metallurgist has been appointed who is in charge of the foundry and the Company proposes to make it a profit centre.”

The Ministry stated (June 1980) that the Company is using cast iron drums for some hoists whenever the design considerations permit (as used in respect of Pochampad project) and this has improved the utilisation of the foundry in recent months.

The following table indicates the cost per tonne of castings for the six years ending 1979-80 :

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
<i>Ferrous Castings</i>						
Output (MT)	161.03	179.13	129.18	127.89	75.46	182.00
Material cost (Rs. in lakhs)	1.90	2.10	1.53	1.76	1.16	3.54
Per MT (Rs.)	1180	1172	1223	1376	1537	1945
Conversion cost (Rs. in lakhs)	1.20	1.49	1.02	1.05	1.03	1.60
Per MT (Rs.)	745	831	790	821	1365	879
Total cost (Rs. in lakhs)	3.10	3.59	2.60	2.81	2.19	5.14
Per MT (Rs.)	1925	2004	2013	2197	2902	2824
<i>Non-ferrous Castings</i>						
Output (MT)	16.11	18.78	22.29	24.37	43.28	37.00
Material cost (Rs. in lakhs)	4.01	4.88	6.16	6.62	11.04	12.29
Per MT (Rs.)	24,891	25,985	27,636	27,165	25,508	33,217
Conversion cost (Rs. in lakhs)	1.05	1.29	1.31	1.23	2.47	2.62
Per MT (Rs.)	6518	6869	5877	5047	5707	7091
Total cost (Rs. in lakhs)	5.06	6.19	7.47	7.85	13.51	14.91
Per MT (Rs.)	31,409	32,961	33,513	32,212	31,215	40,308

It would be seen that while the production of ferrous castings came down from 161.03 MT in 1974-75 to 75.76 MT in 1978-79, the cost of production went up from Rs. 1925 per tonne to Rs. 2902 per tonne, an increase of 50.75 per cent contributed by increase in material cost (18.54 per cent) and conversion cost (32.21 per cent). The increase in conversion cost was

obviously due to low production. Despite the sizeable increase in production during 1979-80 as compared to 1978-79, the cost of production declined only slightly from Rs. 2902 to 2824 mainly due to increase in material cost.

8. SALES PERFORMANCE

8.01 *Securing of orders*

The Company manufactures different products against specific orders received from customers for which quotations are submitted by it against open tenders or specific enquiries. Government Departments and Public Sector Undertakings are the main customers (during the last 13 years, out of 317 orders secured, 259 orders were from Government/Semi Government Organisations and only 58 orders were from private parties). The Company has to face competition in securing orders from public sector undertakings like Triveni Structural Limited (for gates, hoists, penstocks, structurals etc.) besides some private sector firms.

During 1967-68 to 1979-80 the Company submitted 1151 quotations in all of the value of Rs. 26713 lakhs and secured only 317 orders of the value of Rs. 4126 lakhs representing 15.45 per cent of the value of quotations submitted. Seven quotations of the value of Rs. 392 lakhs were pending decision by the customers. 827 quotations were not awarded to the Company out of which 336 quotations of the value of Rs. 14386 lakhs were not secured due to higher rates. In respect of the remaining 491 quotations valued at Rs. 7039 lakhs, the Management have not made any analysis of the reasons for not getting the orders and also for the high cost of its products.

In March 1979, the Board desired that reasons for not getting the orders should be analysed and action taken to secure orders should be reported to it. This has not been done so far (March 1981).

A technical committee appointed in May 1967 to examine the capacity of the workshops and suggest new lines for manufacture suggested the appointment of established engineering firms for securing orders for new lines of manufacture and expanding the existing lines. The Company retained the services of two private firms for this purpose during 1961—69 and 1968—71 respectively. However, the orders secured through these firms were in respect of only the traditional lines of manufacture like the gates, hoists etc. A commission of Rs. 14.33 lakhs was paid to them against orders for Rs. 394.43 lakhs secured through them. Their services were terminated in March 1969 and February 1971 respectively.

While considering the position of tenders submitted and orders secured by the Company, the Board of Directors had observed at their meeting held in March 1976 that the Company's order book position on hand should be at least of the value of Rs. 18 to 20 crores and orders should be built up by aggressive salesmanship. It had also felt that the Commercial Department might be suitably re-organised to carry out this policy. However, the Company has not been able to build up an order book of more than Rs. 11 to 14 crores during the last three years. Details are given in Annexure II.

The Management stated (April 1979) that—

“there is stiff competition for the products from both public and private sectors and structural fabrication now-a-days is being done by road side contractors. Hence it has become necessary that in order to utilise the capacity of the shops created with public investments, the Government must ensure that some preference is given for the Company before entrusting the work to others. Such preferences are being given to State undertakings in some states like Tamilnadu and Gujarat. This has become extremely important in view of the fact that each State is setting up its own constructions corporation, which undertakes fabrication of gates, etc. Creation of additional

capacity in the public sector when the existing capacity is not being utilised will have to be considered. The Government would be helping the Company in a correct way if it helps to build up the order book as, otherwise, it will be indirectly subsidising un utilised capacity through its investments. This aspect requires very serious consideration".

The Company does not have information regarding the country's requirements of major products manufactured by it as it has not made any market survey. With a view to facing competition and overcoming difficulties in securing orders the Company would need to work out planned strategy requiring careful assessment of its capacity for specialised items, trend of rates, area/region-wise requirement of specialised items, profitability in each item or group of items, etc.

An assessment of demands under specialised items like hydraulic gates in which the Company has developed specialisation, can be assessed on a rational basis taking into account the potential competitors in major projects of various States. A regional distribution among the specialised agencies would need to be worked out and agreed upon at the level of Government with the assistance of Central Water Commission and State Government Irrigation Departments.

As regards other items for which the number of competitors is large, the Company would need to consider re-orientation of its working by resorting to site fabrication in order to bring down its production cost to make it competitive.

In respect of pressure vessels, however, where the number of competitors is limited but the work is intricate, the Company could enter this field, provided it could undertake these jobs without any appreciable investment as, unless the Company is able to develop its capacity in the areas for which it is already equipped, it would not be prudent to increase the capital investment.

The Ministry stated (June 1980) that the strategy outlined by Audit has been noted for the future and the Company has already worked out a plan to tap the markets in States where at present it does not have much work.

As regards reducing the production cost the Ministry stated that the Company during 1977-78 and 1978-79 has got part of the work done through sub-contractors nearer to the supply points so as to reduce the cost.

8.02 Delay in execution

During the 13 years from 1967-68 to 1979-80 the Company completed 315 jobs of the value of Rs. 2411.89 lakhs (including 36 job orders which were received prior to 1967-68).

A review of 64 cases finally billed indicated that delays in execution ranged between 5 and 77 months as follows :—

Sl. No.	No. of cases	Period of delay
1.	17	5 to 12 months
2.	21	13 to 24 months
3.	20	24 to 36 months
4.	6	Over 36 months upto 77 months

The delay in execution of orders was generally on account of the following reasons :

- (1) Non-availability of materials to be purchased from outside.
- (2) Delay in acceptance of drawings by customers.
- (3) Delay in completion of civil works by customers.
- (4) Non-supply of materials by customers.
- (5) Delay due to frequent stoppages of Galvanising Plant.

The Board, while reviewing the progress report on major jobs upto February 1976, desired that the reasons for delays in execution of works caused by the action of the customers and of the Company should be analysed and action taken to make good the delay reported to them. The Board also wanted that PERT charts should be prepared at the tendering stage itself for all new works and such charts should also be prepared for works under execution. Though the charts are being prepared for the new works undertaken since April 1976, the reasons for delays and action taken to make good the delays are not being analysed and put up to the Board.

9. ESTIMATION AND COSTING

9.01 *Detailed Design and Estimates*

Although the Company generally prepares an estimate for each work before submitting quotations, precise element-wise data of cost viz., materials, labour and overheads are not available in all cases. While in some cases detailed estimates were prepared, in others only consolidated unit rates were adopted; in certain cases a combination of the two methods was adopted. The details of the cases in which each of these methods was adopted are not readily available with the Company nor could the information be compiled on the basis of available records. As a result, it is not possible to state whether the adoption of unit rates had led to inaccurate estimates leading to non-securing of orders/loss of profit.

The Company has, however, recently introduced Job control cards to enable it to control the costs as well as to give a basis for future quotations.

In May 1976, it was brought to the notice of the Board that many competitors were quoting lower prices for hydraulic gates and hoists and hence it was necessary to quote competitive rates on marginal cost basis. This was not, however, possible as the cost records of the Company had not been maintained in a manner

to facilitate the submission of quotation on marginal cost basis. The Board also felt that an optimum product mix should be evolved taking into consideration the availability of machinery and market demand so that the Commercial Department would be given an indication as to what type of orders should be booked and an analysis on these lines should be put up to the Board within a period of 3 months. No such analysis has been put up to the Board so far (March 1981).

Prior to 1975-76 there was no co-ordination between the Contracts Department and the costing section in regard to the preparation of estimates. This deficiency was removed in 1975-76 but the financial effects of the changes made by the Design Department at the detailed design stage are not being worked out even now.

9.02 Deficiencies in costing system

The following deficiencies were noticed in the costing system :-

- (i) Although separate estimates are prepared for sub-works forming part of major orders the expenditure is not booked against such sub-works except in respect of jobs for fabrication of gates.
- (ii) In respect of the Machine shop, composite machine hour rate is worked out for the shop as a whole and separate rates for individual machines/machine groups have not been worked out.
- (iii) Rectification works taken up on jobs under execution are also collected under the same work order and no separate work orders are opened except in one or two cases.
- (iv) No analysis of the difference between actual costs and estimated costs is being made in order to pinpoint reasons for variation.

Though the Company has started compilation of machine hour rates for individual machines for purposes of quotation, the composite rate is still being used for booking of the expenditure to the jobs (March 1981). The Company has also stated (April 1981) that "at present rectification works are being undertaken on separate jobs".

Till January 1972 no report indicating the actual cost *vis-a-vis* the estimated cost of works under execution was being made to the Board of Directors except in a few cases. From February 1972 a statement indicating the progress made on major works (*i.e.*, all works costing Rs. 25,000 each or more) actual expenditure incurred, probable further expenditure involved and expected profit/loss was submitted periodically to the Board of Directors. The submission of this statement was, however, discontinued from November 1972 at the instance of the Board of Directors and only those cases where either losses were incurred or reduction in profit was involved, were being reported through the quarterly financial reports without indicating the reasons for loss/reduction in profit. The Quarterly Financial Review statements submitted to the Board of Directors after October 1975 did not have the information regarding the cases of losses incurred. No quarterly financial reports were submitted from June 1976 till December 1978. The Ministry stated (June 1980) that quarterly financial reviews are now being submitted regularly.

The Board of Directors at their meeting held on 22-7-1978 observed as follows :—

"The management should indicate to the Board the net cash cost of each contract and review progress against this figure and not against the price quoted. The same figure should be indicated to the shops and thus cost control should be effected."

Further, in September 1978, the Board desired that a cost control cell for monitoring day-to-day expenditure should be

S/7 C&AG/81—4.

established within 15 days and the shops and the erection sites should be informed of the rates at which the jobs were to be executed. The Board also desired that the profitability of each work should be reviewed regularly by the Board at each meeting and a system introduced by which there would be a feed back of information every day from shops and erection sites.

Action has yet to be taken on the above observations of the Board (March 1981).

9.03 Scrap, Spoilage and Rejections

Scrap is classified under the following three groups :

- (1) Irrecoverable scrap
- (2) Melting scrap.
- (3) Industrial scrap.

No records have been maintained by the Company indicating job-wise scrap and rejections. It was stated (April 1972 and February 1973) that it was not possible to maintain the account of scrap separately for each job as a number of jobs were simultaneously handled on the shop floor. The total quantity of industrial and melting scrap collected during the year was, however, available.

From June 1979, the Company has introduced accounting of scrap shop-wise fortnightly. There is, however, no system for estimating the shop-wise scrap generation and comparing the actuals with such pre-determined estimates to serve as an instrument of control.

10. PROFITABILITY OF ORDERS EXECUTED

10.01 During 1967-68 to 1979-80 315 jobs were fully completed and billed. The yearwise break-up of these jobs and the profit/loss made thereon are indicated in the following table :—

(Amount Rs. in lakhs)

Year	Jobs Completed	Amount Billed	Actual Expenditure incurred	Profit made		Loss incurred	
				Nos. of jobs	Amount	Nos. of jobs	Amount
1967-68	13	42.38	27.60	10	15.07	3	0.29
1968-69	21	94.20	76.92	16	17.59	5	0.31
1969-70	20	97.55	70.33	16	28.01	4	0.79
1970-71	11	15.97	19.87	6	0.58	5	4.48
1971-72	23	67.00	64.49	13	7.94	10	5.53
1972-73	26	88.36	97.07	11	6.91	15	15.62
1973-74	15	25.25	17.66	12	8.60	3	1.01
1974-75	44	138.00	103.17	33	37.74	11	2.91
1975-76	18	130.89	105.63	15	30.86	3	5.60
1976-77	60	556.16	536.94	47	76.82	13	57.60
1977-78	36	416.23	378.02	23	90.32	13	52.11
1978-79	8	344.70	355.47	6	21.41	2	32.17
1979-80	20	395.20	353.23	10	59.91	10	17.85
	315	2411.89	2206.40	218	401.76	97	196.17

10.02 The product wise profitability/loss of completed jobs referred to above is indicated below :—

Product	Total Nos. of jobs completed and billed	No. of jobs on which profit was made	Amount of profit (Rs. in lakhs)	No. of jobs on which loss was incurred	Amount of loss (Rs. in lakhs)	Net profit/loss (Rs. in lakhs)
1	2	3	4	5	6	7
Hydraulic Structural	206	168	371.81	38	98.28	+273.53
Building structural	14	3	1.28	11	22.81	-21.53
Penstock pipes and pressure vessels	9	5	0.81	4	2.03	-1.22
Cranes & Hoists	24	13	20.22	11	3.49	+16.73
Transmission line towers & sub-station structural	30	8	2.83	22	59.38	-56.55
Miscellaneous	32	21	4.81	11	10.18	-5.37
	315	218	401.76	97	196.17	+205.59

It would be seen that the Company incurred losses on most of the jobs relating to the manufacture of building structural, transmission line towers and sub-station structural. The reasons for the losses are :—

- excess consumption of steel and consumables over and above the provision made in the estimate (36 jobs) ;
- increase in the cost of labour and overhead (40 jobs) ;
- rectification works subsequently undertaken (4 jobs) ; and
- acceptance of lower rates on negotiated basis (15 jobs).

The causes of excess consumption of material and delays in execution have not been adequately investigated by the Company.

10.03 In the following jobs whose accounts were test checked, the Company incurred heavy losses. In the case of items 5 and 6 even the prime cost was not recovered :—

Sl. No.	Name of the work	Year of Commencement	Year of Completion	Amount billed	Prime Cost	Total Cost	Loss
(Rupees in lakhs)							
1	2	3	4	5	6	7	8
1.	Steel structures on foundations . . .	1967-68	1972-73	38.43	25.54	49.06	10.63
2.	Spillway radial gates and embedded parts for stop logs . . .	1968-69	1976-77	181.18	117.38	196.64	15.46
3.	Slide type gates & emergency gates . . .	1971-72	1976-77	76.51	71.25	97.68	21.17
4.	Fabrication, galvanising & supply of 110 KV AC & DC line towers . . .	1971-72	1976-77	51.6	44.95	63.00	11.65
5.	Design, manufacture & supply of 220 KV galvanised steel structurals & 33 KV outdoor switch yard . . .	1970-71	1976-77	9.48	10.29	16.34	6.86
6.	Design, fabrication & supply of radial & emergency gates, steel pipes etc. . .	1971-72	1977-78	23.70	28.90	40.84	17.14
7.	Fabrication of masts for electrification lines . . .	1974-75	1977-78	42.27	41.70	59.20	16.93
8.	Manufacture, supply and erection of spillway gates & hoists . . .	1971-72	1978-79	271.11	233.84	302.74	31.63
9.	Manufacture, supply and erection of building structures . . .	1977-78	1979-80	58.68	44.16	70.24	11.56

11. MACHINE UTILISATION

11.01 The gross value of plant and machinery installed in different shops as on 31st March 1980 amounted to Rs. 169.81 lakhs. The Company has two major shops viz. Machine Shop and Structural shop. Machine utilisation statements are prepared from October 1968 onwards in respect of about 54 machines installed in Machine shop.

11.02 The details of machine utilisation in the Machine Shop together with the cause-wise break-up of idle hours are given in Annexure III. It would be seen that the percentage of machine idle hours has come down from a maximum of 47.72 per cent in 1969-70 to 13.10 per cent in 1978-79.

11.03 During the years 1975-76 to 1979-80 the Company got certain works executed by sub-contracting the works. The amount paid to sub-contractors was Rs. 15.96 lakhs in 1975-76, Rs. 30.79 lakhs in 1976-77, Rs. 53.80 lakhs in 1977-78, Rs. 77.61 lakhs in 1978-79 and Rs. 32.61 lakhs in 1979-80. The works were also sub-contracted to certain employees of the Company. This unusual practice of entrusting the sub-contracting of work to the employees was decided to be discontinued by the Board of Directors in July 1978.

12. MAN POWER ANALYSIS AND LABOUR PRODUCTIVITY

12.01 *Staff strength*

The Company has not made any assessment of the requirements of man power. The NPC which conducted (November 1971 to January 1972) a study of organisational structure of the Company (referred to in para 3) covered in its report, the requirements of personnel from top management to the level of work assistants. Against 73 men recommended by the NPC in respect of these categories of staff, the Company had on its roll 124 men as on 31st March 1980. There has been an increase

of 70 per cent in the strength of supervisory personnel which is much higher than the recommended strength.

The Ministry stated (June 1980) that—

“the strength by NPC was recommended in 1972 when the turnover was of the order of Rs. 1.5 crores and now the turnover has increased to Rs. 6.9 crores”.

12.02 Productivity of labour

According to the Company, workmen employed in shops other than Heavy Structural shop and Light Structural shop, are also engaged in the production of hoists and cranes which cannot be expressed in terms of tonnage. Therefore, the average production tonnage per employee can be worked out only in respect of Structural shop.

The average production in tonnage per employee in respect of the Heavy Structural and Light Structural shops is furnished in the table below for the years 1972-73 to 1979-80 :

	Heavy Structural shop			Light Structural shop		
	Production in tonnes	No. of man months employed	Production per man/month	Production in tonnes	No. of man months employed	Production per man/month
1	2	3	4	5	6	7
1972-73	2177	2725	0.80	1301	856	1.52
1973-74	1982	3157	0.63	982	831	1.18
1974-75	1985	3036	0.65	723	822	0.88
1975-76	2289	3054	0.75	842	1201	0.70
1976-77	2898	3112	0.93	1357	1155	1.17
1977-78	4142	3525	1.18	1933	1228	1.57
1978-79	4053	3537	1.15	1632	1092	1.49
1979-80	3142	3324	0.95	2003	1277	1.57

It would be seen that productivity was steadily improving in the Heavy Structural shop whereas it was affected due to lack of load in the Light Structural shop during the years 1973-74, 1974-75 and 1975-76. During 1979-80 the productivity came down in the Heavy Structural Shop and went up in Light Structural shop.

Value added per employee and the earnings per employee per month during the years 1968-69 to 1979-80 are shown below :

Year	No. of employees	Value of production (Rs. in lakhs)	Value added Rs. per month per employee	Earning Rs. per month per employee
1	2	3	4	5
1968-69	873	72.55	435	228
1969-70	958	106.01	520	316
1970-71	961	116.15	588	361
1971-72	1212	151.38	547	304
1972-73	1184	221.61	643	346
1973-74	1246	244.68	735	453
1974-75	1217	267.63	931	514
1975-76	1378	274.94	816	461
1976-77	1314	426.85	1132	516
1977-78	1395	539.28	1538	634
1978-79	1370	608.60	1178	728
1979-80	1470	627.92	1795	740

There has been a steady increase in the value added per employee.

Further while the productivity per employee per month was below one MT upto 1976-77 and in 1979-80 in the Heavy Structural shop, the productivity in the Light Structural shop has been above one MT for all the years except for the years 1974-75 and 1975-76.

In this connection, it may be stated that a working group of the Planning Commission on structurals had stated in November 1964 that output in the structural fabrication industry in India was one tonne per man per month against one tonne per man per week for similar work in the U.K. and the productivity could be pushed upto 2 tonnes provided there was uninterrupted supply of steel and power and the mode of operation was standardised continuously (vide para 9.01) of the Report of the Comptroller and Auditor General of India for 1970-71 Union Government (Commercial) Part III.

12.03 *Utilisation of labour*

A table indicating the utilisation of labour during 1968-69 to 1979-80 together with the breakup of idle hours is given in Annexure IV.

It would be seen that percentage of idle hours which was 22.53 per cent in 1968-69 gradually decreased to 2.74 per cent in 1975-76 except during the year 1970-71 when it had moved up as compared to 1969-70. From the year 1976-77 onwards, the idle hours have ranged between 4.38 per cent and 7.55 per cent.

13. FINANCIAL POSITION, WORKING RESULTS AND

13.01 Financial Position

The table below summarises the financial position of the

	1967-68	1968-69	1969-70	1970-71	1971-72
LIABILITIES					
Paid-up Capital	101.00	101.00	101.00	101.00	101.00
Advance against share capital	..	..	..	..	..
Reserves & surplus	9.32	14.20	18.20	19.34	23.01
BORROWING					
(i) From Govt. of India	..	..	..	..	..
(ii) From Banks	..	28.93	47.78	61.79	76.64
(1) Cash credit	..	..	..	..	..
(2) Bill marketing Scheme	..	..	..	..	..
(3) IDBI (Bill Rediscou- ting Scheme)	..	..	..	..	..
Trade dues and other current liabilities (including provi- sions).	38.10	24.48	43.37	35.12	54.38
	148.42	168.61	210.35	217.25	255.03
ASSETS					
Gross Block	42.12	62.50	74.76	87.68	92.33
Less Depreciation	22.85	25.99	30.72	36.11	42.05
	19.27	36.51	44.04	51.57	50.28
Capital Works-in-Progress in- cluding machinery under erec- tion & land acquisition expen- ses	14.03	3.07	0.61	0.57	1.04
Current assets loans and advances	115.12	129.03	165.70	165.11	202.85
Miscellaneous expenditure	..	..	..	..	0.86
	148.42	168.61	210.35	217.25	255.03
Capital employed	96.74	141.16	166.96	182.55	200.74
Net worth	110.32	115.20	119.20	120.34	123.15
Working capital	77.47	104.65	122.92	130.98	150.46

NOTE : 1. Capital employed represents net fixed assets plus working capital

2. Net worth represents paid-up capital plus reserves less intangible

CREDIT CONTROL

Company under broad headings for the last thirteen years :—
(Amount Rupees in lakhs)

72-73	73-74	74-75	75-76	76-77	77-78	78-79	79-80
101.00	101.00	120.50	146.00	146.00	146.00	146.00	146.00
..	10.00	12.00	..	..	..	..	27.00
26.78	32.95	37.93	47.23	48.90	63.06	68.59	71.94
38.00	49.14	53.50	58.50	54.50	50.50	63.50	108.50
89.00	112.24	117.27	127.53	166.89	229.40	264.23	283.41
..	9.84	9.96	4.86	0.99	0.42	..	..
..	..	..	..	14.40	11.20	8.00	4.80
120.93	115.52	251.49	292.06	352.01	304.83	261.18	288.51
375.71	430.69	602.65	676.18	783.69	805.41	811.50	930.16
109.47	123.07	128.58	136.48	231.89	244.09	298.69	305.71
48.00	54.58	62.32	69.65	84.18	93.96	112.95	132.51
61.47	68.49	66.26	66.83	147.71	150.13	185.74	173.20
11.20	24.37	39.43	74.57	15.06	46.26	15.44	16.71
300.30	334.02	494.01	527.60	620.92	609.02	610.32	740.25
2.74	3.81	2.95	7.18	..	..	..	..
375.71	430.69	602.65	676.18	783.69	805.41	811.50	930.16
244.83	293.47	325.40	312.89	426.08	464.32	545.22	636.00
125.04	140.14	147.44	186.05	194.90	209.06	214.59	217.94
183.36	224.98	259.14	246.06	278.37	314.19	359.48	462.80

excluding provision for gratuity.
assets.

13.02 Working results

A table indicating the profitability^a of the Company for the

	1967-68	1968-69	1969-70	1970-71	1971-72
1. Income					
(i) Sales	45.92	97.47	100.84	24.17	74.11
(ii) Increase / Decrease in stock of work-in- progress and finished goods	18.09	(—)27.14	4.51	91.71	75.53
(iii) Other income	2.05	1.90	2.31	2.08	2.79
(iv) Expenditure on con- struction of employees quarters . . . . .	..	..	..	..	0.86
	66.06	76.86	107.66	117.96	153.29
2. Expenditure	50.78	67.22	103.17	116.79	150.14
3. Profit before tax	15.28	9.64	4.49	1.17	3.15
4. Profit after tax	7.33	6.89	3.74	1.17	3.15

The Company earned a profit of Rs. 130.32 lakhs (before debt equity ratio (0.43 : 1) with low interest burden in respect the equity capital, the Company paid dividend of 8% for the 3% was declared for the year 1976-77 and 1977-78, 4% for rate of 6 per cent going up to 15 per cent fixed by the Bureau of Public Enterprises in January 1968 for manufacturing industries. better control on the consumption of steel and zinc and increasing

years 1967-68 to 1979-80 is given below :

(Amount Rupees in lakhs)

1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
96.25	30.82	149.29	134.92	565.17	426.12	354.36	418.57
123.69	213.14	114.06	150.93(—)	126.94	152.39	314.21	226.97
3.68	3.97	2.62	6.12	21.71	9.18	11.23	14.99
0.89	..	0.71	4.48	..	..	..	..
224.51	247.93	266.68	296.45	459.94	587.69	679.80	660.53
219.05	249.98	259.92	289.18	444.43	565.77	655.75	651.86
5.46	6.95	6.76	7.27	15.51	21.92	24.05	8.67
5.46	6.95	6.76	7.27	15.51	21.92	13.35	3.92

tax) during the past 13 years. The Company enjoyed a favourable of loans. Since the participation of the Central Government in year 1967-68 and 4% for the year 1968-69. A dividend of 1978-79 and 2.5% in 1979-80, which was much lower than the rate of 6 per cent going up to 15 per cent fixed by the Bureau of The Company could have improved its profitability by excercising the capacity utilisation of various shops.

13.03 A review of the extra claims made by the Company indicated that it had undertaken to do extra items of work not covered by the contract or had taken up major deviations in the scope of work without getting the acceptance of the customers in writing in the first instance. In the case of the Beas Project, such extra claims to the extent of Rs. 13.28 lakhs were turned down by the Project authorities on the ground that these were not covered by the terms quoted by the Company. In the case of the Barna Project, similar extra claims to the extent of Rs. 15.43 lakhs were not accepted by the Project. There have been disallowances of extra claims by other customers also, though of small magnitude.

The Company expressed difficulties in getting customers' acceptance in writing for any major deviations from the contract for extra works done and stated as follows :—

“Being a Government Undertaking with mainly Government customers, we are not able to stop the work or insist on acceptance of terms before taking up the extra work. There have been many instances where pressure has been brought upon us through the Administrative Ministry and Central Water Commission to proceed with the work in national interest pending consideration of the claims”.

13.04 *Credit control*

The Company allows credit facility to Government customers in terms of agreements executed with them. According to the standard clause provided in the agreements, 90 *per cent* payment is required to be made on procurement of steel, completion of fabrication, erection, etc. and the balance 10 *per cent* within 30 days from the date of completion of work in all respects. These terms are, however, negotiated and modified wherever necessary.

In the case of jobs executed for private parties, no work is undertaken unless some advance is taken.

13.05 The debts outstanding *vis-a-vis* the sales made during the last seven years ended 31st March 1980 are shown below :—

Year ending	Debts considered good	Debts considered doubtful	Total debts	Sales	Percentage of total debts to sales
(Rupees in lakhs)					
31-3-1974	21.65	1.40	23.05	31.53	73.10
31-3-1975	46.57	1.37	46.94	153.57	30.57
31-3-1976	79.96	1.54	81.50	139.97	58.23
31-3-1977	142.67	1.74	144.41	584.59	24.70
31-3-1978	175.13	1.75	176.88	439.69	40.23
31-3-1979	140.35	0.88	141.23	372.00	37.97
31-3-1980	111.24	0.46	111.75	433.56	25.77

The customer-wise composition of Sundry Debtors as on 31st March 1980 is given below :—

	(Rupees in lakhs)
Central Government/Other State Governments	51.89
Government of Karnataka	4.65
Government of Andhra Pradesh	14.46
Public Sector Undertakings	15.16
State Electricity Boards	23.28
Others	2.31
	111.75

Out of the above debts of Rs. 111.75 lakhs, an amount of Rs. 45.43 lakhs was still outstanding as on 28-2-1981, the age of the debts being :

	(Rupees in lakhs)
Less than one year	Nil
More than one year but less than two years	10.81
More than two years but less than three years	17.37
More than 3 years	17.25
Total outstanding	45.4

14. INVENTORY MANAGEMENT

14.01 *Inventory position*

The following table indicates the year end inventory holdings of the Company during 1967-68 to 1979-80 :—

Year	Raw materials			Stores and spare parts		
	Con- sump- tion	Stock	Closing stock in terms of months, consump- tion	Con- sump- tion	Stock	Closing stock in terms of months consump- tion
1	2	3	4	5	6	7
(Rupees in lakhs)						
1967-68	7.71	21.98	34.2	14.14	12.73	10.8
1968-69	17.48	25.07	17.2	9.46	14.01	17.8
1969-70	27.76	30.14	13.0	18.48	15.41	10.0
1970-71	25.41	18.34	8.7	22.83	16.65	8.8
1971-72	33.39	32.61	11.8	38.57	23.72	7.4
1972-73	56.60	40.92	8.7	73.72	26.91	4.4
1973-74	47.65	32.07	8.1	87.16	45.59	6.3
1974-75	59.87	51.69	10.4	71.77	93.14	15.6
1975-76	48.35	47.97	11.9	91.65	83.13	10.9
1976-77	88.87	41.09	5.5	158.10	67.56	5.1
1977-78	126.58	63.98	6.1	148.72	55.76	4.5
1978-79	148.40	56.24	4.5	156.78	38.02	2.9
1979-80	141.00	45.35	3.8	170.23	48.33	3.5

NOTE : The closing stock of raw materials does not include the value of steel supplied by the customers for use on their jobs in respect of which a numerical account is maintained by the Company.

14.02 As on 30th September 1979 the Company was holding inventories worth Rs. 1.98 lakhs which had not moved for over three years. These included stores worth Rs. 0.68 lakh taken over from Tungabhadra Board on formation of the Company in 1960.

14.03 The Company had fixed limits of stock levels in respect of all items of common use such as electrodes, paints, etc. which are regularly used. ABC analysis of items of stores has, however, not been made.

15. FINANCIAL MANAGEMENT AND INTERNAL AUDIT

15.01 *Accounting system*

The accounting instructions issued from time to time have not been manualised. It was stated (February 1979) that the work had been taken up in 1979 and would be completed before the end of calendar year. Till March 1981 the manual was still under finalisation.

15.02 *Internal Audit*

The Company had no Internal Audit Organisation upto 1977. In 1977 the Internal Audit Section with a staff of 3 officials including an Accountant was formed. The following items of work were stated to be attended to by the section :—

- (i) Pre-audit of purchase proposals.
- (ii) Tender sale of scrap, etc.
- (iii) Test check relating to establishment matters such as over time, service registers, T.A. claims etc.
- (iv) Periodical check of stocks.
- (v) Spot check of erection sites in respect of cash, stores and nominal rolls, etc.

No reports were, however, submitted by the Internal Audit Section.

In September 1978, the Board suggested that the Internal Audit system should be strengthened by associating outside Chartered Accountants who could audit the accounts at erection sites and give their reports. Accordingly, two firms of Chartered Accountants were appointed as Internal Auditors from 1-12-1978. Simultaneously, the internal audit section formed in 1977 was disbanded. The scope of Internal Audit to be performed by the out-side firms was laid down by the Company as follows—

- (1) Financial transactions at head-quarters with special reference to audit of consumption of steel in relation to requirements.
- (2) Reconciliation of physical assets with the assets on books.
- (3) Accounts of the Branch Offices at Bangalore and Hyderabad and verification of balances of steel with sub-contractors.

Thus the coverage in internal audit represented merely routine check of the accounting records which is normally entrusted to the Accounting Department in any organisation.

The Committee on Public Undertakings in their Fifteenth Report (Fourth Lok Sabha—April 1968) on Financial Management in Public Undertakings recommended that “the function of Internal Audit should include a critical review of the systems, procedures and operations, as a whole, rather than merely of accounting work”. The Ministry of Finance (Bureau of Public Enterprises), while accepting the above recommendation, directed the public enterprises, *vide* their office memorandum No. 46/Adv. R/BPE/68/13 dated 12th September 1968 to introduce such a system. No such review of overall performance has, however, been conducted so far (March 1981). The Company has not prepared (March 1981) any Manual containing the scope and functions of Internal Audit.

15.03 Budgetary control

The Bureau of Public Enterprises issued instructions in March 1968 that a comprehensive budget manual should be

compiled. It was also prescribed that the responsibility/cost centres should be organised and budget committees constituted. A close link between budget heads and financial and cost accounting heads was also suggested.

As mentioned in para 3.03 the Committee constituted to review the Organisational Structure and suggest modifications, suggested the introduction of an integrated costing and finance accounting systems and a system of daily reports. It was stated that while the cost records were built up based on daily reports, the reporting to management was being done on a monthly basis.

15.04 *Management information system*

The Company did not have an adequate information system for effecting management control and decision making. Information on points such as physical performance with reference to targets/tasks prescribed, and financial results against estimates/sanctions was not reported systematically to the appropriate levels of management to enable the authorities to take proper and timely controlling measures with the result that there was no adequate control on the execution of jobs including the generation of scrap and its utilisation and expenditure on rectification works and identification of reasons for excess over estimates was not practicable.

The Management stated that an information system was being built up progressively from 1979-80 and that physical progress of the jobs under execution, the expenditure on rectification works and issue and utilisation of steel materials (reconciled periodically) together with monthly profitability of jobs under execution were being reported.

16. OVERALL SUMMARY

16.01 *Objectives*

The principal object of the Company is fabrication and erection of hydraulic gates, hoists, cranes and penstocks for river valley projects besides manufacture of storage tanks, pressure vessels,

building structurals, transmission line towers and substation structures.

While formulating a statement of objectives and obligations of the Company in June 1972, the Board had decided that the objective of the Company should be to achieve overall production of about Rs. 3 to Rs. 3.5 crores in a period of 5 years and to earn a gross profit of 8 to 10 per cent on annual production and a return of 6 per cent on equity capital. While the Company has achieved the desired objective in respect of annual production, the percentage of actual gross profit on value of production (1.31 to 3.70 per cent) has been appreciably lower than the target of 8 to 10 per cent. The return on capital also, after having touched a figure of 15 per cent in 1977-78, slumped to a mere 2.7 per cent in 1979-80.

16.02 *Organisational set up*

- (a) The Management has been striving to bring about improvements in its managerial and technical capabilities by implementing from time to time various recommendations made by (i) the National Productivity Council which studied the Organisational structure during November 1971 to January 1972 and (ii) a Committee constituted by the Board in July 1978.
- (b) The posts of part time Chairman, Financial Adviser and Chief Accounts Officer, Manager (Designs) and Secretary-cum-Chief of Personnel remained vacant for long period during the last 8 years.

16.03 *Collaboration agreement*

The Company entered into a Collaboration agreement with Neyrpic of France for 7 years from 1962 with a view to securing technical information and advice for design and manufacture of hydraulic gates and other items both at the tendering and manufacturing stages and also to build up its own competent design

organisation by deputing its engineers to Neyrpic for training. The agreement was extended for a further period of 5 years i.e., upto November 1974. The assistance rendered by the Collaborators was restricted to hydraulic gates only although the agreement covered a number of items in its scope. Even in respect of hydraulic gates the Company stopped taking the help of Neyrpic for submission of tenders after 1968-69; the assistance and advice obtained for the execution of orders also was limited to a few orders although the Company was committed to pay royalty (Rs. 23.96 lakhs) to the Collaborators on all the orders executed during the currency of the extended agreement.

The Company did not make use of the training facilities afforded by the Collaborators in their works to the extent of 52.5 man months out of 72 man months provided in both the agreements. This resulted in inadequate acquisition of expertise in the design and manufacture of complex hydraulic structurals and other items. The Company has not been able to locate another suitable Collaborator so far.

16.04 *Expansion and Diversification programme*

A scheme for expansion (involving shifting of shops to a new site and purchase of new items of machinery) costing Rs. 104 lakhs and designed to increase the capacity from 4,500 tonnes per annum to 7,500 tonnes per annum, was approved by the Government in April 1972. The scheme which was initially expected to be completed by 1973-74 was completed only by March 1979. The delay has been attributed mainly to the non-availability of construction materials, delay in soil testing, delay in construction of railway siding, time involved in obtaining funds from the participating Governments, etc.

16.05 *Production Performance*

(i) After completion of the expansion scheme, the Company broadly assessed the installed capacity for the manufacture of structurals at 8,500 tonnes per annum pending accurate assessment, which task was given to the National Productivity

Council. The Company was yet to take action on the NPC Report received in February 1981. For cranes and hoists, the capacity has been fixed only in monetary terms instead of physical units which would be quite misleading in view of the inflation in prices.

(ii) The Company was not able to achieve the budgeted production in most of the years, though the budgeted production was invariably less than the installed capacity. The short-fall in production was mainly on account of non-receipt/non-availability of required steel sections, oxygen and acetylene gas, delay in receipt of castings and other components, power cut, breakdown of machinery, etc.

16.06 *Working of the Galvanising Plant*

A galvanising plant with a capacity of 8,000 tonnes on 3 shift basis was commissioned in November 1968. The actual production varied from 5.5 per cent to 91 per cent of the installed capacity on single shift basis during the last seven years and also generally fell short of budgeted production.

The cost of galvanising per tonne was very high due to excess consumption of zinc and under-utilisation of capacity. The excess consumption of zinc was mainly due to insufficient attention being paid to some of the technical aspect of processing such as optimum temperature of the zinc bath and duration of dipping.

Realisation from the disposal of zinc dross and ash was low with reference to the price of the zinc content because of certain defects in the tendering system adopted by the Company viz., (a) inviting limited tenders instead of open tenders (b) failure to fix a reserve price and (c) not indicating in the tender notice the percentage of zinc content in the dross and ash.

16.07 *Sales performance*

(i) The Company did not have information about the country's requirement of the major products manufactured by it as it had not made any market survey. The Company had not built up a well established sales organisation of its own. In March 1976, the Board of Directors decided that the Commercial Department should be strengthened to improve the Company's order book position to Rs. 18 to Rs. 20 crores. The maximum order book position achieved was of the order of Rs. 14 crores only as on 31st March, 1980. Where tenders did not materialise in orders, no detailed analysis was carried out to find out the reasons for the failure to secure orders.

(ii) There were delays ranging from 5 to 77 months in the execution of jobs. Reasons for delays were not analysed by the Company and put up to the Board.

(iii) The Company executed 315 jobs valued at Rs. 2411.89 lakhs during the period 1967-68 to 1979-80. Out of this, 218 jobs resulted in a profit of Rs. 402 lakhs and 97 jobs in a loss of Rs. 196 lakhs.

The main reasons for the loss were excess consumption of steel and consumables over the provision made in the estimates and increase in the cost of labour and over-heads due to delays in execution. The reasons for the excess consumption of material and delays in the execution of the jobs were not adequately investigated by the Company.

16.08 *Manpower Analysis and Labour Productivity*

(i) The Company has not made any assessment of the requirement of manpower.

(ii) The average production per employee per month varied from 0.63 tonne to 1.18 tonnes in the Heavy Structural shop and from 0.70 tonne to 1.57 tonnes in the Light Structural shop as against 2 tonnes per month per man which is generally accepted as the norm in structural fabrication industry under Indian conditions in the absence of constraints on production.

16.09 *Working Results*

The Company has been making profits in all the years. The profit during the past 13 years amounted to Rs. 130.32 lakhs and varied from Rs. 1.17 lakhs in 1970-71 to Rs. 24.05 lakhs in 1978-79. The profit was derived mostly from hydraulic structurals and cranes and hoists, the sale of the other products resulting usually in a loss. The percentage of return on capital employed was 15.8 in 1967-68 after which there was a declining trend till 1977-78 when the percentage return was only 0.6. Thereafter though there was an increasing trend the highest percentage return achieved was only 4 in the year 1977-78 followed by 4.4 in 1978-79. The return on capital employed during 1979-80 was only 1.36 per cent. The Company could have improved its profits had it exercised proper control on consumption of steel and zinc and increased the capacity utilisation of various shops.

16.10 *Inventory Management*

The Company carried heavy inventories during 1974-75 (15.6 months' consumption) and 1975-76 (10.9 months' consumption). The inventory holdings, however, came down to lower levels thereafter, i.e. 2.9 months' and 3.5 months' consumption during 1978-79 and 1979-80. ABC analysis of stores was not made.

16.11 *Financial Management, Internal Audit and Cost Control*

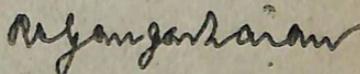
(i) The Accounts Manual of the Company was still under finalisation.

(ii) The Company did not have an adequate information system for effecting management control and decision making.

(iii) The Company had no internal audit organisation barring a small Internal Audit Section which functioned for over an year upto December 1978, when the Company appointed two firms of Chartered Accountants as internal auditors of the Company mainly for performing routine internal checks of the accounts.

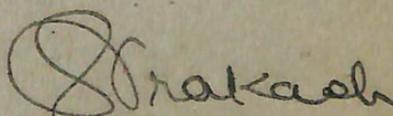
(iv) Cost Control was not effective because of various deficiencies in the costing system especially the failure to analyse the difference between actual costs and estimated costs.

New Delhi
The 31 October, 1981



(P. P. GANGADHARAN)
*Chairman, Audit Board and
Ex-officio Additional Deputy
Comptroller and Auditor General
(Commercial)*

Countersigned



(GIAN PRAKASH)
*Comptroller and Auditor General
of India*

New Delhi
The 31 October, 1981

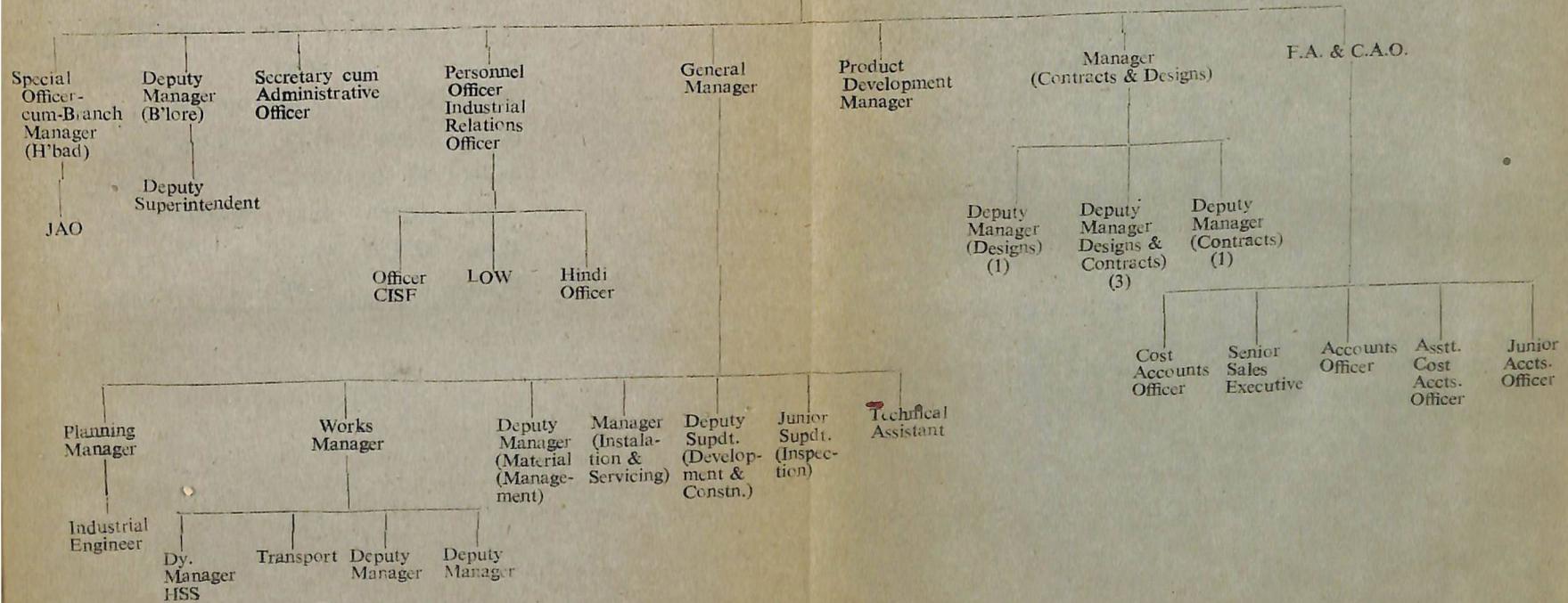
ANNEXURE I

(Referred to in Para 3.04)

ORGANISATION SET UP AS ON 31-3-1981

BOARD OF DIRECTORS

MANAGING DIRECTOR



ANNEX III
(Referred to para 11)

MACHINE UTILIZATION

Particulars	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Hours available (two shifts basis)	43553	156971	159763	1617	193252	194812	207615	208086	210614	372020	372383	344859
2. Hours utilised	29815	82060	101483	1253	160990	156540	155477	146431	155440	323045	323584	289545
3. Idle hours	13738	74911	58280	3636	32262	38272	52138	61655	55174	48975	48799	55314
4. Percentage of idle hours to available hours	31.54	47.72	36.48	22.4	16.70	19.65	25.12	29.62	26.19	13.16	13.10	16.04

NOTE :

1. Available hours represent number of machines multiplied by shift hours.
2. The data for 1968-69 is from October 1968 to 7th January 1969. The information from 8th January 1969 to 31st March 1969 is not available.
3. The data from January 1977 includes also machines in the structural and light structural shops.

ANNEX III (Contd.)
CAUSE WISE BREAK-UP OF IDLE HOURS

Sl. No.	Reasons for idle hours	1968-69		1969-70		1970-71		1971-72		1972-73		1973-74	
		%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS
		3	4	5	6	7	8	9	10	11	12	13	14
1.	No work	18.08	7876	30.41	7739	18.33	29281	6.49	10501	1.63	3156	3.96	7712
2.	No operator	6.68	2911	8.41	3212	9.65	15433	8.48	13716	6.78	13095	8.97	17466
3.	Repairs (Mech.)	5.93	2584	5.75	9026	6.18	9878	5.43	8774	6.82	13169	3.16	6153
4.	Others*	0.84	367	3.15	4934	2.32	3688	2.09	3374	1.47	2842	3.56	6941
		31.54	13738	47.72	74911	36.48	58280	22.49	36365	16.70	32262	19.65	38272

Sl. No.	Reasons for idle hours	1974-75		1975-76		1976-77		1977-78		1978-79		1979-80	
		%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS
		15	16	17	18	19	20	21	22	23	24	25	26
1.	No work	2.18	4527	0.86	1784	1.64	3445	1.67	6216	3.31	12357	2.07	7144
2.	No operator	13.32	27653	15.47	32199	12.00	25272	5.09	18931	0.15	549	7.49	25823
3.	Repairs (Mech)	4.45	9246	4.02	8360	5.94	12519	2.59	9650	1.30	4828	2.45	8455
4.	Others*	5.17	10712	9.27	19312	6.61	13938	3.81	14178	8.34	31065	4.03	13892
		25.12	52138	29.62	61655	26.19	55174	13.16	48975	13.10	48799	16.04	55314

NOTE :

*Others include reasons like no crane, no materials, no instructions, no drawings, no tools, power failure etc.
It will be seen that the machines were idle mostly on account of absence of work and operator.

ANNEXURE IV
(Referred to in Para 12.03)
LABOUR UTILISATION

	1968-69		1969-70		1970-71		1971-72		1972-73		1973-74		1974-75		1975-76		1976-77		1977-78		1978-79		1979-80	
	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%	HOURS	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Hours available	302618	100.00	739032	100.00	787897	100.00	955689	100.00	1001292	100.00	1088808	100.00	1053504	100.00	1094720	100.00	1137168	100.00	1130688	100.00	1552187	100.00	1513000	100.00
Hours utilised	235053	77.67	617463	83.55	645347	81.91	818033	85.60	898135	98.70	1009362	92.70	858847	81.52	871456	79.60	960845	84.49	1045273	92.00	1459125	93.99	1446705	95.62
Idle Hours	67565*	22.33	121569	16.45	142550	18.09	137656	14.40	103157	10.30	79446	7.30	194657	18.48	223264	20.40	176323	15.51	85415	8.00	93362	6.01	66295	4.38
<i>Break up of Idle Hours :</i>																								
(i) No work Load	49063	16.21	75477	10.21	101605	12.90	96082	10.05	64002	6.39	36717	3.37	9352	0.91	12390	1.13	13209	1.16	5983	1.00	22236	1.43	14401	0.92
(ii) No material	5223	2.01	18244	2.47	15847	2.01	5296	0.55	10374	1.04	12659	1.16	11101	1.05	6373	0.58	7946	0.70	..	..	4935	0.32	2926	0.19
(iii) No crane	4556	1.51	15488	2.10	11053	1.40	2394	0.25	4837	0.48	7765	0.72	4584	0.42	1895	0.18	7492	0.66	..	..	11954	0.77	10948	0.73
(iv) Other causes@	7723	2.55	12360	1.67	14045	1.78	33884	3.55	23944	2.39	22305	2.05	169620	16.10	202606	18.51	147676	12.99	79432	7.00	54237	3.49	38020	2.53

NOTES :

- (i) *Also includes machine idle hours upto September 1968 as the figures were separately not compiled.
(ii) The figures for 1968-69 cover the period from 1st July 1968 to 7th January 1969 for which the reports were available.
(iii) @ (Electrical/Mechanical repairs, power failure, want of drawing, tools, instructions etc.)

©
Comptroller and Auditor General of India
1981

PAG. 66. II. 81 (E)
2046-1981 (DSK. III).

Price : Inland Rs. 11.50
Foreign £ 1.35 or \$ 4.14

PRINTED BY THE MANAGER, GOVT. OF INDIA PRESS, RING ROAD, NEW DELHI-110064
AND PUBLISHED BY THE CONTROLLER OF PUBLICATIONS, DELHI-110054

1981

ग्राह्यांकांक 336.54 1341 92
(Call No.) C 739 (74) ग्रंथसं. सं०
(Acca. No.)

लेखक Author. Comptroller and Auditor
शीर्षक Title. General of India.
Report 1981

निकासी तिथि Issued on	लेने वाले के हस्ताक्षर Borrower's Signature	वापसी तिथि Returned on

Form No. N.A.I-91

Mukherjee