PAPERS TO BE LAID ON THE TABLE OF RAJYA SABHA

NEW DELHI

DATED - 10-12-99

AUTHENTICATED

(NAVEEN PATNAIK)

MINISTER OF MINES & MINERALS

Report of the Comptroller and Auditor General of India

for the year ended March 1998

Union Government (Commercial)

Bharat Aluminium Company Limited

No. 4 of 1999

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PREFACE

Audit Boards are set up under the supervision and control of the Comptroller and Auditor General of India to undertake comprehensive appraisals of the performance of the Government Companies and Corporations.

The Audit Board set up to undertake an appraisal of the performance of Bharat Aluminium Company Limited – a Government Company, consisted of the following members:

1.	Dr.B.P.Mathur	Deputy Comptroller and Auditor General-cum-Chairman, Audit Board (From January 1996 to July 1996)
2.	Shri Samir Gupta	Deputy Comptroller and Auditor General-cum-Chairman, Audit Board (From August 1996 to December 1997)
3.	Shri A.K.Chakrabarti	Deputy Comptroller and Auditor General-cum-Chairman, Audit Board (From January 1998)
4.	Shri B.K.Chattopadhyay	Principal Director of Commercial Audit & Ex-officio Member, Audit Board-I, Calcutta (Upto June 1997)
5.	Shri Shailendra Pandey	Principal Director of Commercial Audit & Ex-officio Member, Audit Board-II, New Delhi (Upto March 1997)
6	Shri A.K.Awasthi	Principal Director of Commercial Audit & Ex-officio Member, Audit Board-II, New Delhi(From October 1997)
7.	Shri B.B.Pandit	Principal Director (Commercial) and Member Secretary, Audit Board
8.	Smt. Anita Pattanayak	Principal Director of Commercial Audit & Ex-officio Member, Audit Board-I, Calcutta(From May 1998)
9.	Shri R.P. Kapur[1]	Part-time Member – Ex-Chairman, Hindustan Zinc Limited
10.	Dr. M.S.Thakar[1]	Part-time Member- Ex-Vice President, Aluminium Association of India

[1] The part-time members are appointed by the Government of India (in the respective Ministry or Department controlling the Company or Corporation) with the concurrence of the Comptroller and Auditor General of India.

OVERVIEW

Bharat Aluminium Company Limited is a Government company which was set up in 1965 as the first such company in the public sector with an aim to achieve self sufficiency in production of aluminium in the country. For this purpose an Integrated Aluminium complex backed by captive bauxite mines and a captive power plant were established at Korba in Madhya Pradesh during a period of 15 years between 1973 and 1988. The Company is producing Alumina, an intermediate product, finished aluminium metal in various forms and value added products like aluminium extrusions, foils, conductors and rolled items.

The Audit Board set up by the C&AG to conduct a comprehensive appraisal of the company took up its task in May 1990 and examined different aspects of Company's performance. In this endeavour the Board was assisted not only by the office of the Member Audit Board-II New Delhi but also by the Management of the Company as well as the Government of India in Ministry of Mines, with both of whom extensive and fruitful discussions were held, one after the other, in 1996 and 1998 on the basis of their comments on the draft appraisal reports prepared under the supervision of the Audit Board.

Precisely at the stage when last phase of the Integrated Aluminium Complex was commissioned in 1984, ownership of a sick private company, ALUCOIN, taken over by the Government of India with an intention of reviving it was vested in the Company without any financial assistance. Expectation of the Government that at that stage BALCO could revive the sick unit was a case of over-vaulting optimism. The Company, already weakened financially due to time and cost overrun could spare no funds for revival of sick ALUCOIN. To the contrary the company, unable to service its long term loans, went (March 1990) for capital restructuring under which capital was written off and Government of India loans and interest thereupon turned into equity. In the process the Company became over capitalized and acquired a low gearing and offers, presently, the lowest EPS in the aluminium industry. In the meanwhile ALUCOIN since rechristened as Bidhan Bagh Unit has continued to incur losses which have been absorbed by the profits made in its main unit at Korba.

(Paras 8.1 and 8.2)

The Company has been reporting profits since 1987-88. Though in the initial years its profits were marginal, in 1995-96 the Company reported the highest profit of Rs.163.34 crore. In subsequent years the profits have again fallen.

(Para 4.2.1)

The main findings of the Audit Board are as follows:

- Estimation of ore reserves in the captive bauxite mines of the Company was over optimistic. The difficulty was compounded by mounting environmental concerns as a result of which one of the partially developed mines at Gandhamardhan had to be abandoned rendering sunk expenditure and other expenses(Rs.30.39 crore) infructuous. Cautious approach towards development of newly acquired mines at other locations had forced the Company to partially rely on outside sources for its requirement of ore which has imposed an extra cost of Rs.5.11 crore on the Company during the preceding five years. The development has also partially offset the locational advantage of Company's processing complex at Korba.

(Paras 5.1, 5.2, 5.3 and 5.5)

- The installed capacity of the Company has not been increased since 1984 and its contribution to total production of aluminium metal in the country has fallen steadily during the last five years from 20 % to 16 %. Consumption of basic raw materials like lime, bauxite and caustic soda as well as intermediate products like calcined alumina, annode paste, aluminium fluride and power was sub-normal throughout the period of appraisal making prices of the Company's products uncompetitive.

(Paras 6.1.1, 6.1.3 and 6.1.4)

- Captive power generation capacity is insufficient to insulate the Company against interruptions and shortfalls in power supply as supplementary power supply from MPEB is unreliable as well as far too expensive. The extra burden to the Company on this account was Rs.203.47 crore during the last five years.

(Para 6.2.1.4)

- Capacity utilisation at Bidhan Bagh Unit was uneven and ranged from low to very low. In spite of low demand for its products a substantial percentage of orders was being subsequently cancelled by the clients and the management had accepted this situation. This was due to poor condition of plant and machinery, non availability of spares thus making production process unreliable and rendering the quality of products poor. Consumption of furnace oil in melting shop was excessive. Even limited modernization of plant had failed.

(Paras 8.3, 8.4, 8.5 and 8.7)

- Dust and handling losses in respect of calcined alumina was undetermined and consequential costs, being booked on an ad-hoc basis, were unverifiable.

(Para 6.1.5)

- Smelter plant modernized at a cost of Rs.15.28 crore continues to under perform on various parameters owing to selection of a bad contractor. An investment of Rs.15.28 crore in the modernisation of plant was yet to bear any fruit.

(Para 7.2)

- Company is saddled with excess non-executive manpower particularly in its Bidhan Bagh Unit and VRS offers made so far have remained ineffective.

(Paras 11.1, 11.2 and 11.3)

- Quality constraints and uncompetitive cost of production have both pegged the company's exports at an insignificant level. The company has thus virtually no existence in the export market but is fairly well entrenched in supply deficient domestic market. Barring few aberrations the Company has a reasonably effective credit control system. Inventory control was, however, less effective.

(Paras 9.3, 9.4, 9.5,10.1 and 10.2)

- Company spends an inconsequential sum on research and development activity.

(Para 12.1.2)

- Modification made in steam boilers to reduce ash emission level failed to achieve its objective.

(Para 12.2)

- The Government had failed in ensuring full incumbency at the board level as a result of which Company was without a Chief Executive for over one year; for a long period three slots on its Board including that of the CMD were vacant.

(Chapter 3)

The Audit Board has made the following suggestions:

✓ An early appointment of Directors on the Board including non-official Directors.

✓ Expeditious action in development of mines at Mainpat and Rajnandgaon.

✓ Early steps to end uncertainities about uninterrupted power supply including sanction/implementation of the 5th unit of captive power plant.

✓ Improvement in consumption parameters of raw materials as well as the intermediate products.

✓ Closure or complete modernization of Bidhan Bagh Unit.

✓ Conscious and sustained focus on domestic market, particularly on the value added segment.

✓ Better labour productivity, greater emphasis on research and development and compliance with environment standards.

CHAPTER 1 : INTRODUCTION

1.1 Bharat Aluminium Company Limited (BALCO), established in November 1965, was the first aluminium Company in public sector. In the seventies, the Company set up at Korba, Madhya Pradesh, an Integrated Aluminium complex having capacity to produce annually, one lakh metric tonnes of aluminium. For assured supply of bauxite, the basic raw material, the Company acquired lease over bauxite mines at various places in Madhya Pradesh. An Alumina Plant capable of refining two lakh metric tonnes of ore was commissioned in April 1973. The Smelter Plant was commissioned in four phases. The first phase was completed in May 1975 and the remaining three by September 1984. In the same year ownership of a sick private company viz. Aluminium Corporation of India (ALUCOIN), taken over by the Government, was vested with the Company and renamed as its 'Bidhan Bagh Unit'(BBU). Apart from these two units the Company has, presently, one Captive Power Plant at Korba and three Captive Mines at Phutkapahar, Amarkantak and Mainpat, all in Madhya Pradesh.

1.2 The working of the Company was reviewed by the Committee on Public Undertakings (COPU) during 1982-83. The recommendations of the Committee are contained in its 71st Report (Seventh Lok Sabha-1982-83). The action taken by the Government on the recommendations of the Committee is indicated in its 79th Report (Seventh Lok Sabha - 1983-84).

1.3 The Disinvestment Commission in its 2nd Report (April 1997) has recommended that the Government might immediately disinvest its holding in the Company by offering 40% of the equity to a strategic partner, either domestic or foreign through a transparent and competitive global bidding process.

1.4 The report as set out in the succeeding chapters is based on studies made by the Board, of various aspects of the functioning of the Company and the discussions held by it with the Management of the Company at the Board level as well as with the Ministry of Mines under the administrative control of which the Company is placed.

1.5 The report generally covers the period of five years from 1993-94 to 1997-98.

CHAPTER 2 : OBJECTIVES

2.1 The main objectives of the Company are to:

- carry on trades or business of metallurgists and miners;
- search for, inspect, prospect, examine, explore, mine, quarry, purchase or otherwise acquire bauxite or other aluminium bearing ores in India or elsewhere in the world;
- mine, quarry, beneficiate, dress, smelt, refine, manufacture, process, fabricate, purchase, sell or deal in bauxite and other aluminium bearing ores; and
- manufacture/produce alumina, aluminium and aluminium products, by-products and arrange sale thereof.

2.2 In pursuance of the recommendation of the COPU* the Company has adopted for itself the following corporate mission:

> **To operate varied industrial complexes for the mining of bauxite, production of alumina, aluminium and its products, so as to cater to domestic and international demand with high quality goods at competitive prices..... *To thus* contribute towards *national* self sufficiency in aluminium, achieve self-reliance in technology and *to* promote the use of aluminium. (*italics inserted)***

The Company had limited success in achieving its corporate mission of contributing national self-sufficiency in production. The share of the Company in the overall aluminium production in the country fell from 20% in 1993-94 to 16% in 1997-98.

The appraisal of the Company by Audit Board indicated that the Company had limited success in achieving the above mission. No addition was made to its installed capacity after September 1984. The Company could not adequately develop captive mines to meet its full requirement of bauxite for which it is now partially dependent upon outside sources. The share of the Company in the overall aluminium production in the country fell from 20% in 1993-94 to 16% in 1997-98. Keeping in view the likelihood of other primary manufactures substantially adding to their existing capacities in coming years the market share of the Company within the country was expected to come down to 12%. Moreover, owing to substandard quality, its products could not find acceptability in the international market. This factor as well as an uncompetitive cost of production and relatively higher domestic demand have

* 71st Report (7th Lok Sabha)

pegged the exports of the Company at an insignificant level. These conclusions have been drawn by the Audit Board on the basis of analysis made in succeeding chapters.

BALCO suffered from disadvantages like dependence on MPEB for power, dependence on outside parties for bauxite requirement and negative contribution from BBU.

The Disinvestment Commission in its second report has concluded that apart from outdated smelter technology (with its concomitant disadvantages of high power consumption and lower output) BALCO suffered from certain other disadvantages viz. dependence on Madhya Pradesh Electricity Board (MPEB) for power, dependence on outside parties for bauxite requirement and negative contribution from BBU. It has also noted that as a public sector undertaking BALCO has suffered from procedural bottlenecks and lack of managerial autonomy. These findings of the Commission are in alignment with the findings of Audit. Moreover, as will be self evident in subsequent chapters, the constraints mentioned above have had their genesis in Government decisions at various points of time viz. setting up of Korba unit with overestimated bauxite reserves (See Chapter 5), 5th unit of the captive power plant not being sanctioned in time (see paras- 6.2.1.1 and 6.2.1.4) and vesting of an ailing private company with the Company when the Company itself was incurring losses (see chapter 8).

The Secretary of the Ministry during a meeting with Audit Board (November 1998) admitted that the Company had limited presence in the national aluminium market but clarified that its contribution to achievement of self sufficiency in aluminium production in the country should be viewed not in quantitative terms but in relation to the support it was providing to various strategic users like Department of Space and the Defence Services, by producing high grade and specialized metal for their requirements. He also stated that the corporate plan of the Company for the period up to 2010 envisaged modernisation and expansion of the capacity of all the existing units at Korba. It included installation of a Cold Rolling mill to produce aluminium sheets of thinner gauge in the first phase (up to 2002 AD) and concentration on production of value added products, change in the product mix and reduction of inventory holding in the next phase. He also clarified that since Company could not expect any budgetary support from Government the necessary expenditure would have to be met by it from its own resources.

CHAPTER 3 : ORGANISATIONAL STRUCTURE

The Company is under the administrative control of the Ministry of Mines. The management of the Company is vested in a Board consisting of 12 Directors. Besides the Chairman-cum-Managing Director (CMD), there are four functional Directors looking after functional areas of (i) Finance,(ii) Personnel, (iii) Operations and Projects and (iv) Marketing, Procurements and Material management. An organisational chart is placed at Annexure-I.

During the period under appraisal the Board of Directors never had its full complement and was allowed to function with sub-normal strength (see shaded space in the table below). Between October 1995 and November 1996 as many as 3 posts on the Board of Directors did not have a regular incumbent as is indicated by the shaded space within the red border in the table below:

Post	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
CMD				May '95 – Feb '97		
Director (Coml.)				Oct.'95 – Dec. '96		
Director (Operations & Projects)				July'92-Nov.'96		
Director (Personnel)						3/98

The Joint Secretary, Ministry of Mines/ Director (Personnel) officiated as acting CMD, in addition to their own duties, during the period the post was lying vacant. Reasons for not appointing a regular CMD and Director (Commercial) for over one year and Director (Operations and Projects) for over four years were not furnished to audit.

Key positions at the Board level including that of CMD remained without regular incumbents for prolonged spells.

The Ministry stated (November 1998) that action was being taken to fill up the post of Director (Personnel) and a panel of names was under consideration with the Public Enterprises Selection Board. No non-official Directors were appointed in the Board except two officers of the Ministry of Mines. The Secretary informed (November 1998) the Audit Board that recommendation of Search Committee on appointment of non-official Directors was under the consideration of Cabinet Committee on Appointments. He also stated that proposal for more delegation of powers to the Company was being considered by the Government.

The Audit Board is of the view that inability of the Government to fill up promptly the position of chief executive of the Company as also its functional heads for prolonged periods reflects poorly on the extent and quality of support provided by it to the Company. It also underlines the susceptibility of existing arrangements for filling up top slots in public sector to inordinate delays.

CHAPTER 4 : CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE

4.1 Capital Structure

4.1.1 The authorised share capital of the Company as on 31 March 1998 was Rs.500 crore of which Rs.488.85 crore is subscribed and fully paid up by Government of India. A comparison with similar companies in private sector for the year 1997-98 would indicate that the Company has a 'bloated' capital base as indicated below:

	BALCO	INDALCO	HINDALCO
Turnover (Net) (Rs. in crore)	739	1038	1473
Equity Capital (Rs. in crore)	488.8	71.1	74.5
Operating Profit (Rs. in crore)	172.1	153.5	605.6
Margin of Operating Profit (Percentage)	23	15	41
Earning per Share (In rupee)	**1.6**	**10.1**	**66.6**

The borrowing of the Company (Rs.44.6 crore) as on 31 March 1998 was less than one tenth of its equity capital which indicated the Company is geared far below its potential.

The Company first restructured its Capital in March 1990 by

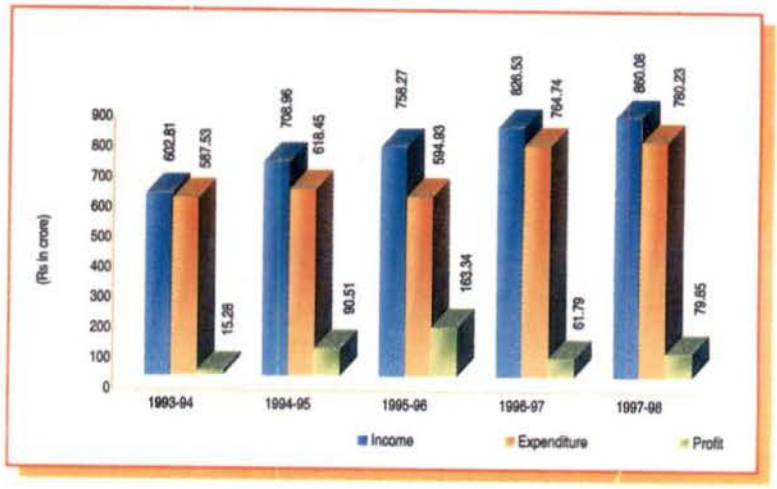
- extinguishing 35,60,300 equity shares of Rs.1000 each (Rs.356.03 crore) being the accumulated loss upto March 1988;
- converting outstanding Government loans of Rs.275.24 crore into equity; and
- adjustment of due and defaulted interest payment of Rs.80.79 crore by issuing 8,07,900 additional equity shares of Rs.1000 each .

The capital of the Company was restructured in March 1990 by extinguishing its equity shares and conversion of loans and defaulted interest into equity. In consequence, the Company is overcapitalised, has a low gearing and a low earning per share (EPS).

SBI Capital Markets was commissioned in October 1994 to determine the desirability of further Capital restructuring of the Company to make it attractive enough for disinvestment. In their report of October 1994, SBI Capital Markets recommended conversion of 75% of the share capital into preferential share capital carrying 4 per cent dividend and redeemable in 3 equal instalments after 5 years of restructuring. In another report submitted in May 1997 by SBI Capital Markets, adopted by the Board in June 1997, it was recommended that share capital of the Company to the extent of 50 per cent should be reduced by converting into Government of India loan with interest at 8.5% payable in five annual instalments and subject to one year moratorium. The Government, however, has not acted on the proposal of the Company made in June 1997. The Secretary, in November 1998, informed Audit Board that the matter was being debated in the Government.

4.2 Financial performance

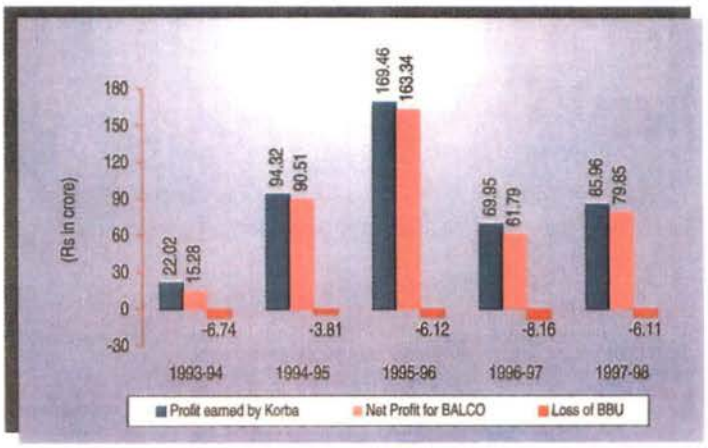
4.2.1 An analysis of the financial performance of the Company during the last 5 years is given in Annexure II. The position has been summarised graphically below :



The net profit of the Company which jumped from Rs. 15.28 crore during 1993-94 to Rs.163.34 crore during 1995-96 has again declined during 1997-98 to Rs.79.85 crore.

The net profit of Rs.15.28 crore earned by the Company during 1993-94 rose sharply in following years touching Rs.163.34 crore in 1995-96, but fell below the mark of Rs.100 crore in the subsequent two years.

The decline in gross profit was due to increase in prices of inputs, higher cost of power, higher wages and fall in selling prices of finished products due to depressed market conditions. Even as its net profits during 1996-97 and 1997-98 was less than half of the profit earned in 1995-96, the Company in the year 1997-98 paid a dividend of Rs.20 crore which was 43 percent higher than the sum of Rs.14 crore in the previous two years. The Company also enhanced its cash and bank balances during 1997-98 by Rs.81 crore over its previous level of Rs.120.85 crore. The Company was also able to absorb losses incurred by its Bidhan Bagh Unit (see graph below).



The improved performance shown by the Company in recent years was largely attributable to turnaround in the Korba Unit, particularly after the commissioning of Captive Power Plant in 1987.But the performance of Korba Unit in all these years has been undermined by continuous loss incurred by BBU, as indicated by the table below:

Year	Net Profit	KORBA	BBU	BBU'S loss as a percentage of Korba Unit's profit
	Rs. in crore			Percentage
1993-94	15.28	22.02	(-)6.74	30.61
1994-95	90.51	94.32	(-)3.81	4.04
1995-96	163.34	169.46	(-)6.12	3.61
1996-97	61.79	69.95	(-)8.16	11.67
1997-98	79.85	85.96	(-)6.11	7.11

The reasons for the losses at Bidhan Bagh unit were low production due to obsolete technology, poor condition of equipment, and sale of products at a discount owing to their inferior quality. Despite the recurring loss, modernisation of Conductor plant, Foil plant and Extrusion plant which have vital bearing on the working of the Unit as a whole has remained incomplete for the last 5-10 years(see para 8.7).

CHAPTER 5 : MINING OPERATIONS

5.1 The Geological Survey of India in 1961-63 had estimated the total reserves of bauxite at Phutkapahar and Amarkantak located in close proximity to Korba unit and leased to the Company, to be 22.78 million tonnes. However, on further exploration by the Company usable reserves were estimated to be only 4.38 million tonnes. In the Audit Board meeting (November 1998) the Secretary, Ministry of Mines informed that both the Mines will be closed by June 1999 as the bauxite reserve therein would be exhausted thus negating the locational advantages of the Korba Unit.

5.2 The actual availability of bauxite from Amarkantak mines was further constrained because the Central Government refused to renew the initial lease granted to the Company for mining at Hazaridadar site and mining was stopped at Rakhtidadar and Nanhudadar sites on ecological grounds.

The Company suffered a loss of Rs.30.39 crore due to abandonment of Gandhamardhan mines.

5.3 As the estimated reserves of the mines at Amarkantak and Phutkapahar were not expected to last long, the Gandhamardhan Bauxite Project (involving 0.6 million tonnes of bauxite per year) was sanctioned by the Government of India in July 1982 for implementation at a cost of Rs.31.20 crore (revised cost-Rs.47.22 crore). The project work was, however, stopped (December 1985) due to agitation by a section of the local people apprehending environmental damage to the area. An expenditure of Rs.34.15 crore was incurred on developing the mine up to August 1990. The sunk cost of the project which was ultimately abandoned (March 1993) was estimated at Rs.20.80 crore. Of the remaining cost of the project, the Company could retrieve so far only Rs.3.76 crore by sale of redundant equipment. The overall loss by abandoning the mine was Rs.30.39 crore. However, no provision has been made by the Company in their accounts towards this loss. Since the project was funded by the Government of India by way of equity/loan and abandonment of the project was also approved by the Government (March 1993), the Company expects that the capital loss will be borne by the Government. During the Audit Board meeting (November 1998), the Secretary, Ministry of Mines stated that to avoid the experience of the Gandhamardhan Project being repeated, a competent person with leadership qualities would be posted in the mining area.

As the Committee on Public Undertakings had observed in its 71st Report (Seventh Lok Sabha - 1982-83) and as is now clear, Government made huge investments in the Korba Complex without having reliable data on the quantity and quality of usable reserves.

5.4 After the failure of the Gandhamardhan project, the Company developed another mine at Mainpat and started operation of the mine from March 1993. Drilling process carried out in 5735 meters so far indicated reserve of 20 lakh tonnes of bauxite. Drilling process of remaining 18,000

meters is yet to be completed. Government of Madhya Pradesh granted the Company, in October 1996, mining lease for another mines at Rajnandgaon having an estimated reserve of 7 million tonnes. The lease deed was signed in March 1997 and a consultant has been appointed by the Company to prepare a Report for obtaining clearance from the Ministry of Environment and Forests before commencement of mining activities.

Inaccurate assessment of bauxite reserves in the captive mines and slow development of new captive mines forced the Company to purchase bauxite from external sources at an extra expenditure of Rs.5.11 crore.

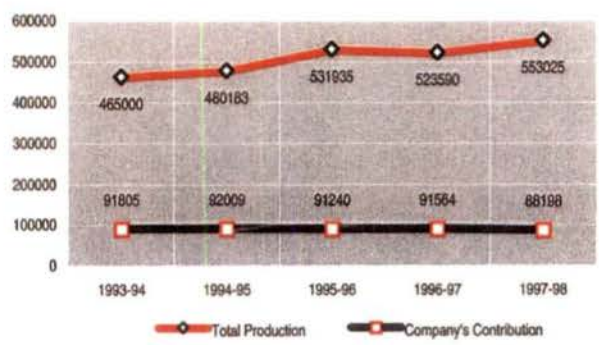
5.5. Inaccurate assessment of bauxite reserves in the captive mines and slow development of new captive mines necessitated purchase of 8,57,610 M.T. of bauxite from external sources during the last five years as a result of which Company had to bear an extra expenditure of Rs.5.11 crore. The Ministry of Mines stated (January 1998) that due to abandonment of Gandhamardhan project, the Company was shy of investing huge capital in any project at one go.

CHAPTER 6 : PRODUCTION PERFORMANCE AT KORBA COMPLEX

6.1 KORBA UNIT

6.1.1 In the Alumina Plant at Korba, bauxite is initially converted into alumina hydrate which is then calcined in Rotary kiln. On being fed into the Smelter plant Calcined alumina is converted into aluminium metal. Flow diagrams indicating the process involved in the production of calcined alumina and aluminium metal are placed at Annexure III. The molten aluminium is received in oil fired melting and handling furnaces where after it is cast in the foundry shop into various products, viz. properzi rods, ingots, round ingots and flat ingots. In sheet rolling shop intermediate products like flat ingots and round ingots are further rolled and extruded. Similarly, in the profile and tube shop, rolled products and extrusions are produced. The actual product mix is determined by installed capacity as well as the market requirement.

The installed capacity of aluminium production at the Korba Unit of the Company was enhanced in September 1984 to 100000 metric tonnes where after it has not been enhanced further. The details of installed capacity, targeted production and actual production of alumina hydrate, calcined alumina, aluminium hot metal, wire rods, rolled products and extruded products during the years 1993-94 to 1997-98 at Korba Unit are given in Annexure –IV. The Company's contribution to Country's production of aluminium is graphically represented below:



The Company's contribution in the aluminium production of the country (see graph at previous page) has fallen from 20% in 1993-94 to 16% in 1997-98 as shown in the table below.

Year	Aluminium Production		Percentage of BALCO's contribution to country's production
	Country (MT)	BALCO (MT)	
1993-94	4,65,000	91,805	19.74
1994-95	4,80,183	92,009	19.16
1995-96	5,31,935	91,240	17.15
1996-97	5,23,590	91,564	17.48
1997-98	5,53,025	88,198	15.95

6.1.2 At Korba unit the percentage of capacity utilisation (highest-lowest) during the last five years ended 31 March 1998 was as under:

Capacity utilisation (in per-centage)	Alumina Hydrate	Calcined Alumina	Aluminium Hot metal	Wire rods	Rolled products	Extruded products
Highest	92	91	94	106	89	99
Year	1995-96	1993-94	1995-96	1994-95	1997-98	1995-96
Lowest	84	83	89	73	64	63
Year	1994-95	1994-95	1997-98	1997-98	1993-94	1993-94

Reasons for decline in the production of Aluminium Hot Metal in 1997-98 were attributed by the Management to non-availability of uninterrupted power from the Company's captive power plant due to break down of one generating unit. Capacity utilisation of wire rods and extrusions had declined (see Annexure IV) due to the sluggish market conditions.

Calcined Alumina

6.1.3 Comparison of actual consumption of raw materials per tonne of Calcined Alumina produced with related input output norms indicated that except Furnace oil, consumption of all other raw materials was on the higher side. This is indicated below:

Particulars	Consumption as per norms	Actual Consumption				
		1993-94	1994-95	1995-96	1996-97	1997-98
1. Bauxite(MT)	2.500	2.634	2.661	2.698	2.780	2.781
2. Caustic Soda(MT)	0.098	0.078	0.084	0.101	0.112	0.107
3. Lime(MT)	0.090	0.247	0.253	0.284	0.256	0.227
4. F/oil(KL)	0.133	0.102	0.105	0.107	0.105	0.105

The rising consumption of raw materials was attributed by the Management to the quality of ore which varied from source to source.

Hot Metal (Aluminium)

6.1.4 The consumption of intermediate products and other major raw materials in production of one M.T. of Hot metal during the last five years was marginally higher throughout the period under appraisal, except in the case of Cryolite (see table below).

Particulars	Consumption as per norms	Actual consumption				
		1993-94	1994-95	1995-96	1996-97	1997-98
1.Calcined Alumina (MT)	1.925	1.95	1.95	1.95	1.94	1.93
2. Anode Paste (MT)	0.565	0.591	0.589	0.614	0.625	0.632
3 Cryolite (MT)	0.042	0.008	0.007	0.002	0.004	0.019
4. Aluminium Fluride (MT)	0.040	0.036	0.041	0.050	0.048	0.042
6. Power (KWH)	16500	17992	17836	17711	17761	18403

High Low

Consumption of Calcined Alumina, Anode paste and Power exceeded norms even after the Smelter Plant was modernised during 1993-94. The circumstances leading to failure of project for modernisation of smelter plant are discussed elsewhere in the Report (see Chapter 7).

Dust and handling loss of calcined alumina

6.1.5 Calcined alumina is lost in the form of dust as well as through handling at various points/stages of production viz. electrostatic precipitators, discharge end of the rotary kiln, fluxous, pumping of calcined alumina into silos and transportation from Alumina plant to Smelter plant.

The actual quantities of alumina lost as dust and through handling in the above manner are not ascertained by the Management. For the purpose of recording production of calcined alumina in the Alumina Plant, however,1% of production on account of dust and 0.3% on account of handling loss is added, on an adhoc basis, to the quantity of the calcined alumina received in silo of the smelter plant. On this basis a total quantity of 10921.42 MT (Value Rs.5.45 crore) of calcined alumina had been shown as lost during 1993-94 to 1997-98. In the absence of any empirically established norms or any observed and recorded data these losses were not verifiable.

The Ministry stated (January 1998) that measurement of fractional quantity of dust loss at individual location had not been found to be feasible.

The reply of the Ministry is not tenable because the Management has undertaken no step to quantify and standardise the loss of alumina in the form of dust or through handling at different locations, even though the Company is operating Alumina plant for more than 25 years.

6.2 BALCO CAPTIVE POWER PLANT (BCPP)

6.2.1 Construction and commissioning of BCPP

6.2.1.1 To meet the power requirement of Korba unit, the Company had recommended to set up a 337.5 MW captive power plant with 5 units of 67.5 MW each. But, Government of India, in December 1982, sanctioned only four units of the Captive Power Plant at a cost of Rs.285 crore.

6.2.1.2 All the four units of BCPP were commissioned between June 1987 and March 1988. The cost was revised to Rs.336.90 crore in 1985 and to Rs.441 crore in January 1991. Total expenditure incurred on the project up to December 1997 was Rs. 481.35 crore. The cost over run was mainly due to enhancement of customs duty on imported components, increase in foreign exchange rate, change in scope of work and provision of additional equipment not envisaged earlier and escalation in cost of materials, etc.

6.2.1.3 National Thermal Power Corporation Limited (NTPC) was appointed to manage construction and operation of the plant from the very beginning. Accordingly, NTPC operates and maintains BCPP according to its own practices, systems and procedures and is being paid a fee of Rs.2 crore per annum with effect from 1 April 1988. The fee was enhanced by 5% in April 1991 and by 7.5% in April 1993. In addition, all actual annual operational and maintenance expenses are reimbursed by the Company to NTPC.

Extra expenditure of Rs. 255.25 crore was incurred on purchase of power from the State Electricity Board due to lower installed capacity, operational problems in captive power plant and extra consumption of coal.

6.2.1.4 In December 1996, Unit No.4 of the power plant broke down leading to serious power shortage in the smelter plant. The unit was repaired at a cost of Rs.4.26 crore. Before the normal operation started in September 1997 the Company had drawn power from MPEB by incurring an expenditure of Rs.3.89 crore per month apart from which the smelter plant had registered a production loss of 3000 tonnes equivalent to Rs.14.88 crore (approx) up to September 1997. Since BCPP could not fully meet the power requirement of the Korba Unit due to its lower installed capacity as well as operational problems the Company had to,even otherwise, draw power from Madhya Pradesh Electricity Board at a much higher unit cost (Rs.3.83 to Rs.5.59) as against cheaper generating cost of its own power plant which ranged between 64 paise and 91 paise per unit. Total extra expenditure incurred on drawing power from MPEB during the last five years was Rs.203.47 crore (See Annexure V).

The Secretary, Ministry of Mines stated in Audit Board meeting (November 1998), that keeping in view the surplus and reliable power supply from MPEB at the time BCPP project was being considered by the Government and cheaper rate offered by the Electricity Board, the Government had come to the conclusion that the requirement of the 5th unit of the BCPP could be eschewed. He, however, admitted that, in retrospect, this had proved to be a wrong decision. The Secretary, also stated that feasibility report for setting up of 5th unit of the power plant now was under examination by the NTPC. He also added that Ministry of Power has been approached to secure uninterrupted power supply to Korba Unit directly from the NTPC unit at Korba.

6.2.2 Consumption of coal

In BCPP the consumption of coal was higher when compared to the norm laid down in the feasibility report. Details of consumption of coal per unit (Kwh) of electricity generated during 1993-94 to 1997-98 are given below:

Sl. No	Particulars	1993-94	1994-95	1995-96	1996-97	1997-98
1.	Actual Consumption (Kg/KWH)	0.893	0.852	0.841	0.864	0.882
2	**Norm as per feasibility report (Kg/KWH)**	**0.733**	**0.733**	**0.733**	**0.733**	**0.733**
3	Extra consumption of coal as compared to norm (Kg/KWH)	0.160	0.119	0.108	0.131	0.149
4	Power Generation of BCPP (in million KWH)	2037.37	2088.34	2233.36	2044.84	2111.99
5	Cost per Kg. of coal (in Rs)	0.32	0.33	0.35	0.37	0.47
6	**Extra cost in BCPP due to extra coal consumption (Rs in lakh) (Col 3x4x5)**	**1043.13**	**820.09**	**844.21**	**991.13**	**1479.03**
Total extra cost--Rs.5177.59 lakh						

The extra expenditure incurred on excess consumption of Coal as indicated above was Rs. 51.78 crore.

The Management attributed (October 1998) excess consumption of coal to inferior grade of coal received from South Eastern Coalfields Ltd. (SECL). The moisture content of coal originally received was stated to be 6% against 10% being received by the Company which reduced the calorific value of coal.

CHAPTER 7 : MODERNISATION OF SMELTER PLANT

7.1 The Smelter Plant at Korba Aluminium Complex of the Company was set up in technical collaboration with the erstwhile Soviet Union. The designed power consumption was 16500 Kwh per tonne of metal. To bring down the power consumption of smelter from 17672 Kwh/tonne in 1991-92 to 16500 Kwh/tonne the Company awarded, in April 1993, the contract for first phase of its modernisation involving computerisation of cell lines by installation of Celtrol System* to Kaiser Aluminium Technical Services INC. of USA (KATSI) on a turnkey basis. Total contract value was US $4.900 million plus Rs.2.35 crore (excluding Indian taxes and duties).

According to the agreement, the work of installation of Celtrol system on cell lines was to commence after release of the Ist instalment of the agreed contract value. Performance guarantee tests were to be conducted 10 months after the commencement date. The entire work was to be completed within 14 months from the date of commencement of the work. The Ist instalment of payment due to the contractor was released on 21st December 1993. The detailed time schedule and actual completion of major items of the Project were as under:

Sl.No	Major items of work	Due date as per the time schedule	Actual date of completion
1	Commencement of project	1.1.1994	-
2	Start of Celtrol test pots	25.7.1994•	2.8.1994
3	Performance Guarantee test on test pots	26.9.1994 to 30.11.1994	11.1.1995 to 10.3.1995
4.	Start of Celtrol on balance pots	26.9.1994 to 15.12.1994	August 1994 to 22.11.1994
5.	Completion of the project	31.12.1994	Completed subject to second performance guarantee test

The performance guarantee tests carried out on 26 test pots (out of 408 pots in the Smelter Plant) during January to March 1995, did not show desired results as would be seen from the table overleaf: -

* The Celtrol system provides close monitoring of various critical parameters in a smelter such as temperature, current, voltage, etc and identifies malfunctioning of cells.

Sl.No	Parameters	Target	Actual
1	Current efficiency	87%	84.88%
2.	DC Power consumption	16,500 Kwh/tonne	16,535 Kwh/tonne
3.	AL.F 3 consumption	25 Kg/tonne	43.17 Kg/tonne
4.	Cryolite consumption	15 Kg/tonne	2.74 Kg/tonne
5.	Paste consumption	540 Kg/tonne	564.2 Kg/tonne
6.	Metal purity		
	-Fe	0.12%	0.21%
	-Si	0.08%	0.08%

Power consumption in Smelter plant was 8% to 12% higher than the targeted level. Due to the poor performance of the contractor expenditure of Rs. 15.28 crore on modernisation of Smelter plant had remained unfruitful till October 1998.

7.2 The average power consumption in the Smelter Plant (408 pots) during 1994-95 to 1997-98 ranged between 17836 Kwh/tonne and 18403 Kwh/tonne which was very high when compared to the guaranteed power consumption target of 16,500 Kwh/tonne fixed after implementation of modernisation project. Non-achievement of the designed parameters was attributed by the contractor to non-adherence to the standing operating practices/ prescribed conditions by the Company.

The second set of performance guarantee tests were scheduled to be carried out in September 1995. Before this could happen the Contractor unilaterally terminated the contract alleging that the Company had failed to release payment of US$ 376,250, to provide information to them regarding taxes payable by the Company and to complete necessary formalities in respect of 'letter of credit' issued by the Bank of America on behalf of the contractor. The deadlock could not be resolved in a meeting held between the contractor and the management (February 1996). In November 1997, the Company received from the Contractor a notice of arbitration which remained inconclusive so far (October 1998).

Meanwhile, payments amounting to US$ 3,957,750 (equivalent to Rs.12.47 crore) and Rs.2.35 crore were paid by the Company to the contractor besides Rs.0.46 crore paid as taxes (@ 15% on Technology & Engineering fee) between December 1993 and April 1995. Pending satisfactory performance guarantee tests to be carried out by them the Company has withheld balance payment of US$ 942,250 due to the contractor. The expenditure of Rs.15.28 crore has, however, remained unfruitful so far (October 1998).

The Ministry stated (January 1998) that the Company was negotiating with the Contractor to conduct the second performance guarantee test. During Audit Board meeting (November 1998) the Secretary, Ministry of Mines admitted that it was a case of having a poor contractor. He stated that performance parameters had deteriorated after showing improvement at the initial stages.

CHAPTER 8 : FUNCTIONING OF BIDHAN BAGH UNIT (BBU)

Decision to take over ALUCOIN was of doubtful merit and vesting its ownership in the Company was clearly devoid of logic.

8.1 Aluminium Corporation of India Ltd., Asansol, (ALUCOIN) a private Company which used to convert primary metal into value added downstream products was closed in 1973 due to very low operating efficiency, grave financial improprieties and poor industrial relations. Efforts by Government of West Bengal and Government of India, since 1975, to secure revival of the sick company had failed. To enable it to make further investments with the intent of serving the interest of general public through continued production of aluminium and alumina products by the sick unit, the Government of India vested in itself the assets and liabilities of ALUCOIN by enacting Aluminium Corporation of India Limited (Acquisition and Transfer of Aluminium Undertaking) Act, 1984. In terms of this Act, Government of India also acquired the power to transfer, by notification, ownership of the Unit. Prior to this in 1978, the Company was appointed by the Government as the 'authorised person' to manage the affairs of the sick unit. With effect from June 1984 vide notification by the Government of India, the ALUCOIN actually became a part of the Company and was renamed as its 'Bidhan Bagh Unit (BBU)'. Having already accumulated a loss of Rs.197.95 crore the financial condition of the Company at that stage was too precarious to permit any fresh infusion of capital in BBU. Even the Government of India which had taken over ALUCOIN initially with the intention of reviving it, failed to provide any financial support to the Company on this account.

In the opinion of the Audit Board the decision to take over ALUCOIN was of doubtful merit and vesting its ownership in the Company was clearly devoid of logic. Expecting a financially weak PSU to revive a sick private company without having provided any kind of financial assistance for modernisation of plant and upgradation of technology was a case of over vaulting optimism.

BBU has been incurring losses which by the end of March 1998 accumulated to Rs. 57.87 crore.

8.2. The techno economic study undertaken (1984) by the Company prior to the take over of the plant, had envisaged that after the take over of the Unit, Fabrication complex would generate cash surplus by reaching the assessed capacity within six months from the start up. But owing to obsolete technology, poor condition of the equipment and non availability of spare parts for the equipment of foreign origin the various units of the Fabrication Complex could operate only at 30-50% of the assessed capacity. Thus, the basic objective of taking over of ALUCOIN i.e. to ensure uninterrupted production of aluminium and aluminium fabricated products, was not achieved. Contrary to this, BBU has been incurring losses which accumulated by the end of March 1998 to Rs.57.87 crore. During the last five years upto 1997-98, the unit incurred an average annual loss of Rs.6.14 crore on an average annual turnover of Rs.21.42 crore. The average annual labour cost of

Rs.7.70 crore, being 36 percent of the turnover, was quite high in comparison to that of Korba Unit where it was only 11 percent of the turnover.

The Secretary, Ministry of Mines, during discussion with the Audit Board (November 1998) admitted that BBU was an area of concern for the Company as well as the Ministry.

8.3 Production Performance of the BBU

The details of the assessed capacity, targeted production and actual production of rolled products, Extrusions, Foils and Conductors during the year 1993-94 to 1997-98 at BBU are given in Annexure VI. The percentage of capacity utilisation (highest and lowest) during the last five years ended 31 March 1998 was as under:

Capacity utilisation (in percentage)	Rolled products	Extrusion	Foil	Conductor
Highest	**38**	**60**	**79**	**25**
Year	1994-95	1995-96	1995-96	1994-95
Lowest	**22**	**18**	**46**	**7**
Year	1996-97	1993-94	1993-94	1997-98

The Ministry stated (January 1998) that the main reasons for the poor performance of the Unit were lack of suitable orders, ageing and outdated machinery.

8.4 Cancellation of orders

Orders worth Rs.11.58 crore booked for different products manufactured at BBU were cancelled during the five years ended 1997-98. There was no year in which no orders were cancelled. This was due to the Unit's failure to adhere to the delivery schedule, non-operation of particular equipment, inability to meet the required specifications and delay in receipt/non-receipt of requisite raw materials from Korba unit of the Company. The product-wise percentage of orders cancelled to orders booked during the period 1993-94 to 1997-98 are given below:

Year	Rolled Products	Extruded Products	Foils	Conductors
1993-94	11.61	13.54	15.00	49.92
1994-95	0.95	3.18	2.71	2.49
1995-96	12.25	5.30	3.67	79.41
1996-97	4.03	5.00	24.10	10.10
1997-98	3.50	2.60	6.60	7.80

During Audit Board Meeting (November 1998), the Management explained that orders were cancelled not only because of poor quality of the product but also due to frequent breakdown of machinery as well as non-availability of spares on a timely basis. It was further stated that the Company was accepting orders only to take maximum advantage from the market even as it meant certain loss of credibility.

8.5 Excess consumption of furnace oil

Trials carried out after certain improvement made in fuel fired furnaces in the melting shop of BBU, consumption of oil had stabilised at around 92 litres per tonne of melting. Based on a study conducted by National Productivity Council (NPC) the Company fixed a consumption norm of 90-95 Lt/MT for the furnace.

The actual consumption of furnace oil in the unit vis-a-vis the norm during 1993- 94 to 1997-98, however, indicated no improvement as shown in the table below:

Sl.No.	Consumption parameter	1993-94	1994-95	1995-96	1996-97	1997-98
i)	Quantity melted (MT)	1633.50	2707.00	2886.16	1752.42	1794.00
ii)	Specific oil consumption (Lt/MT)					
	a) Norm	90-95	90-95	90-95	90-95	90-95
	b) Actual	110.19	106.76	135.47	121.55	140.00
	c) Excess consumption (Lt/Mt)	15.19	11.76	40.47	26.55	45.00

NPC had also recommended, inter alia, that a) the furnace doors as well as secondary and flue gas dampers be repaired, b) pressure regulating valves be installed in primary air line, c) secondary air pressure be increased for thorough mixing, d) during charging flue gas damper be kept in fully closed position and e) a small size metallic recuperator be installed at the crown. The Unit has, however, installed only six numbers of metallic recuperators. No action has been taken to implement the other recommendations of NPC (October 1998).

The Ministry stated (January 1998) that increase in the consumption of fuel oil was due to frequent switch over from one product to another and melting of poor quality scrap. The Ministry also stated that the Company was in the process of installing a fuel efficient burner which would reduce the oil consumption appreciably.

8.6 Machine utilisation

The utilisation of available machine hours in BBU ranged between 16 and 30% in the Rolling Mill, 23 and 62% in the Extrusion Press, 17 and 65% in the Conductor Plant and 45 and 74% in the case of machines in the Foil Plant.

Ministry stated (January 1998) that since plant and machinery were old the quality of the product was inferior. The buyers, therefore, were reluctant to take BBU's products which ultimately led to machines remaining idle.

8.7 Modernisation/revamping of plants of BBU

The Board is convinced that in its present form the BBU can not be turned around. They also are of the view that Company must either sell the unit or completely modernise it to make it viable.

After achieving turn around in its Korba unit (1987-88) the Company attempted to modernise BBU. But, modernisation of Conductor plant, Foil plant and Extrusion plant which have vital bearing on the working of the Unit as a whole, was not completed despite the fact that up to March 1998 the Company realised Rs.5.56 crore from disposal of certain inoperative units of BBU. The circumstance and implication of this deficiency in the modernisation effort of the Company are discussed in the following paragraphs.

8.7.1 Revamping of Conductor Plant

The Board, in December 1987 , approved a proposal for revamping the Conductor Plant for production of 1000 metric tonnes of All Aluminium Alloy (AAA) conductors at an estimated cost of Rs.76 lakh. The work was awarded to various suppliers/parties during November 1988 to November 1989 and completed in June 1991 at a cost of Rs. 70.43 lakh. The preliminary test on the conductor was carried out in June 1991 and the final test plant in January 1992 only.

Between January and May 1992 the Unit produced 68.587 M.T. of AAA conductors on trial basis. Faced with the problem of marketing the product, the Company decided (March 1994) to go for second modernisation of the Conductor Plant based on a feasibility study conducted by Galada Industrial Consultants Pvt. Ltd. The work was awarded on firm price basis to the Consultants in July 1994, at a cost of Rs.98.80 lakh. The work was to be completed by July 1995. Owing to dispute between the consultant and his sub contractor the work could not be completed. The contract was terminated in November 1996. As the sub-contractor of the consultant continues to hold back a part component of the Conductor Plant, the Company was not able to complete the work even departmentally. An amount of Rs.47.75 lakh was paid to the contractor against value of work done before the contract was terminated.

8.7.2 Revamping of Foil Plant and Extrusion Plant

Schemes for revamping and modernisation of the Foil Plant and Extrusion Plant at a capital expenditure of Rs.17.84 crore and Rs.9.70 crore respectively, were proposed in June 1988 and September 1988. The proposal to revamp/modernise Extrusion plant was approved by the Board in September 1988 at a cost of Rs.9.70 crore. But no action has been taken to the proposal till now. The Company attributed this inaction to sluggish market conditions and the extraordinary price quoted by the bidders for the main equipment.

The Ministry stated that report of the consultants appointed for modernisation of the Unit was not encouraging. However, a report of the expert committee appointed by the Ministry for suggesting marginal improvements in the Unit was under consideration of the Management. During the meeting of the Audit Board (November 1998), the Secretary, Ministry of Mines stated that in modernising BBU, the Company was constrained by the inherent logic of the situation which prevented it from throwing good money after the bad.

The Board is convinced that in its present form the BBU can not be turned around. They also are of the view that Company must either sell the unit or completely modernise it to make it viable. An attractive voluntary retirement scheme needs to be made a part of either of these two situations. The Government must, even at this stage, consider compensating the Company for the losses absorbed by it by keeping BBU operative and releasing a suitable amount from the National Renewable Fund.

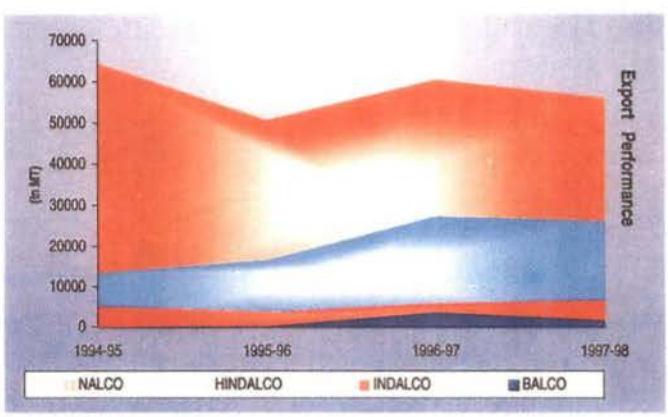
CHAPTER 9 : MARKETING AND CREDIT CONTROL

9.1 The Central Marketing Division of the Company is located in New Delhi and is responsible for formulation of marketing policies and guiding the sales force of the Company. The Division is assisted in its day to day operations by four regional marketing offices located at Delhi, Calcutta, Mumbai and Chennai. Besides, there are five territorial marketing offices at Chandigarh, Pune, Baroda, Nagpur and Hyderabad and two marketing co-ordination cells at Korba (M.P.) and Bidhanbagh (WB).

9.2 The Company faces no particular difficulty in marketing its products in the country even in the face of competition from bigger producers in private sector as well as public sector. The proportion of finished goods lying in stock at the end of each year during the period of appraisal, as indicated below, bears this out:

	1993-94	1994-95	1995-96	1996-97	1997-98
Closing stock of finished goods (Rs.in crore)	51.01	29.12	81.62	83.72	41.69
Sales (net of excise duty) (Rs.in crore)	505.94	597.84	600.80	666.14	738.66
Closing stock of finished goods in terms of month's sale	1.21	0.58	1.60	1.51	0.68

9.3 The Company is presently consuming 80 to 85 percent of basic metal produced by it, in house, for production of value added items which according to the Secretary, Ministry of Mines, presently account for almost half of its total sales. Evidently despite its relatively small market share (see para 6.1.1), the Company is firmly entrenched in the domestic market. The same, however, cannot be said about its export performance as is shown in the graph.



The Audit Board is of the view that unless the Company is able to improve the quality of metal produced by it and reduce its costs it has little chance of making its presence felt in the export market. The Ministry admitted during discussion held with the Audit Board (November 1998) that owing to technological constraints the options of exporting Calcined Alumina was not open to it. Any significant improvement in quality or cost of production, however, would not be possible without major efforts in increasing captive power generation, improving process efficiency and inducting latest technologies in refining and smelting. Pending a decisive thrust towards these long term goals the Audit Board would advise the Company to concentrate on the domestic market particularly the downstream segments so as to take full advantage of opportunities offered by the cyclical nature of international aluminium market. In this context the likely emergence of Housing and Transportation sectors as potential markets for aluminium producers should engage the particular attention of corporate planners of the Company.

9.4 Credit control

The Company follows a flexible credit policy as indicated below:

Sale to	Government/PSU	Private Parties
Terms of credit	No security is insisted upon for allowing credit	Against Letter of Credit/Bank Guarantee

9.4.1 Credit policy leaves no scope for unsecured or otherwise risky sale. A review of sundry debtors indicated that proportion of bad debts to total credit sales was not only high but also has tended to go out of control in the recent years. It becomes evident that while effecting sales the company has been deviating from its declared credit policy of supplying material only against collateral securities.

(Rs. in lakh)

		1993-94	1994-95	1995-96	1996-97	1997-98
1.	Sundry Debtors	5487.60	4587.32	5729.47	5719.03	3576.37
2.	Debts considered doubtful	816.47	719.75	762.14	960.69	1004.30
3.	% age of doubtful debts to total debts	14.88	15.69	13.30	16.80	28.08

9.4.2 Age-wise and class-wise analysis of debtors as on 31 March 1998 as given in the table below indicated that consignment agents and other private parties account for large share of outstanding dues.

(Rs. in lakh)

	Debts more than one year but less than 2 year old	**Debts More than two year but less than 3 year old**	**Debts more than 3 years**	**Total**
Government Deptt.and PSUs	50.99	49.15	53.38	153.52
Consignment agents	11.10	1.35	215.54	227.99
Private parties	123.79	12.89	67.56	204.24
Total	185.88	63.39	336.48	585.75

9.4.3 The Company had engaged number of service agents and paid them a sum of Rs.95.04 lakh during the last five years for servicing the orders and expediting the recovery of debts from Governmental parties. The arrangement apparently has neither helped in keeping the level of outstanding debts low nor in ensuring prompt servicing of debts/repayment. Some instances which show lack of care in allowing credit sales are discussed in the succeeding paragraphs:

9.5 Unauthorised extension of credit

(a) The Company supplied material worth Rs.8.99 crore to seven aluminium companies which had formed a group and entered (March 1992) into an MoU with the Company for supply of wire rods to the constituent units engaged in the production of cables and conductors. Contrary to stated policy of the Company to supply the material against only full collateral securities, the material was supplied to them without limiting the value of consignments to individual units to the value of Bank Guarantees/ Letters of Credit furnished by each of them.

(b) In an another case two parties besides the group referred to above, were supplied material worth Rs. 70.95 lakh in January 1993 without insisting upon any form of security.

Four out of seven parties mentioned at (a) above had repaid their dues. In two cases bank guarantees for Rs.5 lakh each had been adjusted against outstanding dues leaving a balance of Rs.1.93 crore outstanding against them. A sum of Rs.16.42 lakh was outstanding against the third party. In other cases referred to at (b) an amount of Rs. 71 lakh had remained outstanding for the last six years. Five different suits besides two criminal cases had been filed by the Company during 1994-95 against defaulting parties. In three cases the Hon'ble High Court of Delhi had passed decrees in favour of the Company between January 1997 and October 1998 making it possible to enforce recovery of Rs. 2.27 crore. The decrees, however, remain unexecuted so far (October 1998).

CHAPTER 10 : MATERIAL MANAGEMENT AND INVENTORY CONTROL

10.1 The Company has not prescribed maximum and minimum stock levels in respect of individual items of stores. The stock of finished goods held by the company in the last five years ranged between 15 and 45 days of gross sales in respective years which was not considered very high in metallurgical business. But in terms of value, closing stock of finished goods which was substantial at Rs.83.72 crore in 1996-97 (see table at page 23) fell to Rs.41.69 crore in the next year. However, proportion of other stock viz. raw materials, stores and spares, loose tools to consumption was relatively high as indicated by the table below:

Particulars	1993-94	1994-95	1995-96	1996-97	1997-98
Closing stock of raw materials, stores, spares and loose tools (Rs. in crore)	54.37	50.89	48.75	53.20	52.56
Raw materials, stores etc. consumed (Rs. in crore)	119.78	117.60	136.31	160.42	144.65
Closing stock to consumption (in months)	5.45	5.19	4.29	3.98	4.36

10.2 The total value of stores and spares held by the Company for over three years as of 31.3.1998 was Rs.11.32 crore. Of this, stores and spares worth Rs.11.26 crore related to Korba unit. While in BBU the value of such non-moving stores and spares had risen from Rs.3.74 lakh in 1993-94 to Rs.6.25 lakh in 1997-98 the value of similar inventory in Korba unit continued to remain above Rs.10 crore and in 1997-98 it was Rs.11.26 crore. Of this, stores and spares valuing Rs.2.37 crore were declared obsolete as on 31 March 1998.

10.3 Physical verification conducted during the period 1995-98 revealed a shortage of Rs.192.54 lakh and excess of Rs.31.27 lakh of inventory which were adjusted in the books of accounts of the Company without investigation.

CHAPTER 11 : MANPOWER ANALYSIS AND LABOUR UTILISATION

11.1 During the period of appraisal, the number of executives and non-executives working in the Company was well below the sanctioned strength. But sanctioned strength throughout these years continued to be higher than the strength recommended by National Productivity Council on the basis of manpower audit carried out during 1993-94 at the initiative of the Company. While the actual strength of executives was below the number recommended by NPC, number of non-executives was higher. This is indicated by the table below:

	Particular	**1993-94**	**1994-95**	**1995-96**	**1996-97**	**1997-98**
1	Sanctioned Strength	**9642**	**9205**	**9497**	**9497**	**9499**
a)	Executives	785	725	735	735	757
b)	Non Executives	8857	8480	8762	8762	8742
2.	Strength as recommended by NPC	**6799**	**6799**	**6799**	**6799**	**6799**
a)	Executives	765	765	765	765	765
b)	Non Executives	6034	6034	6034	6034	6034
3.	Men in position	**7955**	**7689**	**7584**	**7454**	**7317**
a)	Executives	733	697	685	692	747
b)	Non Executives	7222	6992	6899	6762	6570

11.2 Audit Board observed that labour cost as well as production had continuously risen during the years under appraisal. But the profit per employee has not shown a similar upswing. The labour cost of the Company rose sharply from Rs. 56.17 crore in 1993-94 to Rs. 115.97 crore in 1997-98. This included expense on account of over time which went up four fold and welfare subsidies that went up three fold during the same period. This is indicated by the table below:

		1993-94	**1994-95**	**1995-96**	**1996-97**	**1997-98**
1	**Total labour cost (Rs. in crore)**	**56.17**	**75.47**	**79.19**	**107.83**	**115.97**
2.	Labour cost per employee (Rs. in lakh)	0.71	0.98	1.04	1.45	1.58
3	Value of production per employee (Rs. in lakh)	5.88	7.47	8.45	8.52	9.59
4	Profit per employee (Rs.in lakh)	0.20	1.18	2.16	1.69	1.84

11.3 The Secretary, Ministry of Mines explained in the Audit Board Meeting (November 1998) that the Voluntary Retirement Scheme (VRS) introduced by the Company had not evoked encouraging response among the employees because the Company was making profit. In the BBU, however, age profile of potential VRS beneficiaries was on the higher side and given the relatively obsolete technical skills of the work force, opportunities for their further employment were remote. He also stated that financial support of Rs.2.5 crore made available to the Company from the National Renewable Fund to meet expenditure towards retirement benefits of the employees who availed VRS, was inadequate.

CHAPTER 12 : RESEARCH AND DEVELOPMENT AND ECOLOGY AND ENVIRONMENT

12.1 Research and Development

12.1.1 Department of Science and Technology granted recognition (1976) to the Company's Research and Development (R&D) unit. In 1984, the Company established a separate R&D wing in Korba complex and inducted a core working group of technologists and scientists. The R&D wing has been associated with all the development activities of the Company apart from attending to the day to day problems in the plants. It also undertakes joint collaborative research projects with expertise available in other research/educational institutions.

12.1.2 The annual expenditure of the Company on R&D unit during five years ended 31 March 1998 excluding salaries paid to R&D personnel was as follows:

(Rs. in lakh)

Year	Capital expenditure	Recurring expenditure	Total	Sales	Percentage of total R&D expenditure to sales
1993-94	-	50.00	50.00	62799	0.08
1994-95	-	50.00	50.00	71653	0.07
1995-96	-	45.10	45.10	69159	0.07
1996-97	205.04	71.98	277.02	76183	0.36
1997-98	-	1.00	1.00	84897	0.01

From the above it is evident that expenditure other than pay and allowances during the period of appraisal never touched even 0.1 per cent of the sales except in 1996-97 when a capital expenditure of Rs. 2.05 crore was incurred for R&D purpose.

12.1.3 During the period 1993-98 R&D unit of the Company undertook and completed 46 projects. Apart from improving the plant productivity as well as purity and quality of products and developing new products to enhance value addition in production to boost usage of aluminium in various sectors, R&D unit of the Company has done substantial work in the field of harder grade of alloys specifically required in defence and space applications. The Company has also developed alloys for fuel tanks of the Indian missiles like Agni and Prithvi. The Management stated that while some of these applications might not have contributed in financial terms, the development of these alloys from the national point of view is of great significance. The Company has also commercialised production of alloy AFNOR7020 for use by ISRO, Alloy AA

3004 for incandescent and fluorscent lamp bases and IS 40800 with improved formability for PP caps.

12.2. Ecology and Environment

According to the Air Pollution Control Act, 1987 the emission limit for suspended particulate matter from steam plant chimney of Korba unit and from boiler of BCPP is 150 mg/nm3. In order to bring down the emission level so as to conform with statutory requirements, the Company awarded (March 1992) the work of modifications in the boilers of steam plant to BHEL and that of BCPP to ABL, a private sector company at the cost of Rs.7.26 crore and Rs.22.81 crore respectively. The modification work of boilers of steam plant was completed in February 1994 at an expenditure of Rs.7.07 crore and the work relating to BCPP was completed in January 1998 at an expenditure of Rs.22.11 crore.

Inspite of modification carried out to the boilers of the steam plant, dust emission level continued to remain inconsistent in three high pressure boilers and fluctuated between 78 mg/nm3 and 267mg/nm3 in 1994-95, 90mg/nm3 and 937mg/nm3 in 1995-96 and 160mg/nm3 and 621mg/nm3 in 1996-97 against standard emission level of 150mg/nm3.

New Delhi
Dated 1999

(A.K.CHAKRABARTI)
Deputy Comptroller and Auditor General-cum-Chairman, Audit Board

Countersigned

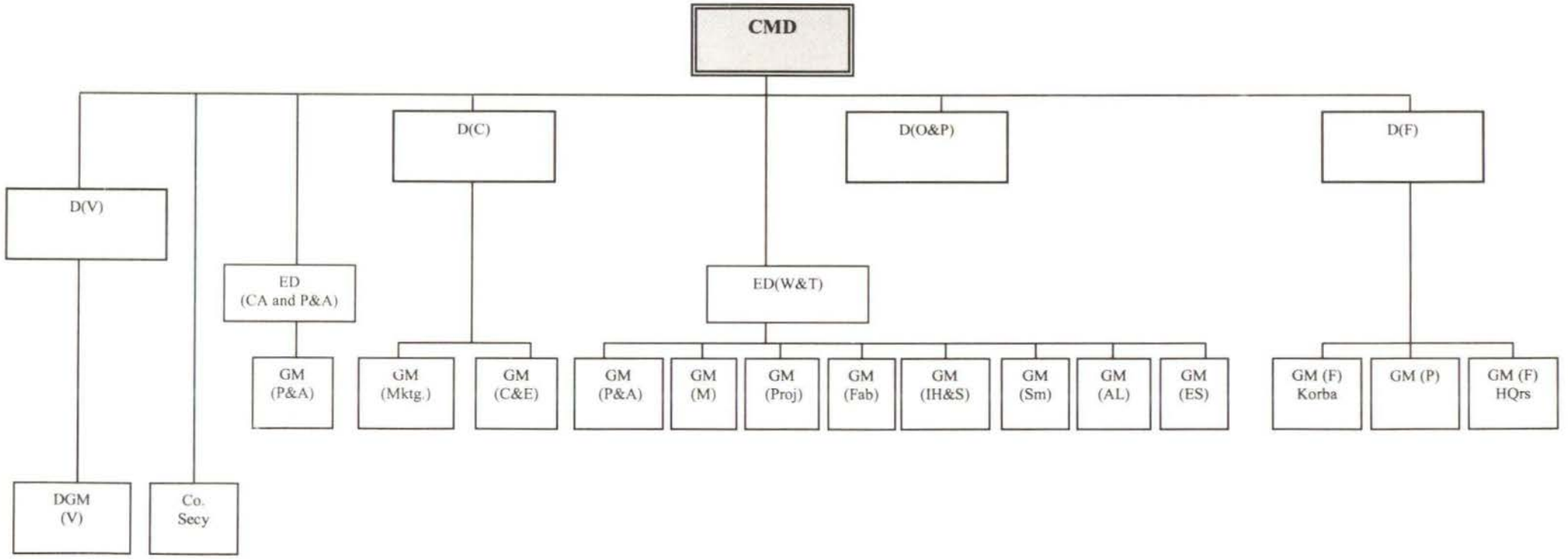
New Delhi
Dated 8th June 1999

(V.K.SHUNGLU)
Comptroller and Auditor General of India

Annexure –I

(Referred in Chapter 3)

Organisational Chart



ANNEXURE –II

(Referred in para 4.2.1)

Statement showing the financial position and working results of the Company for the last five years upto 1997-98

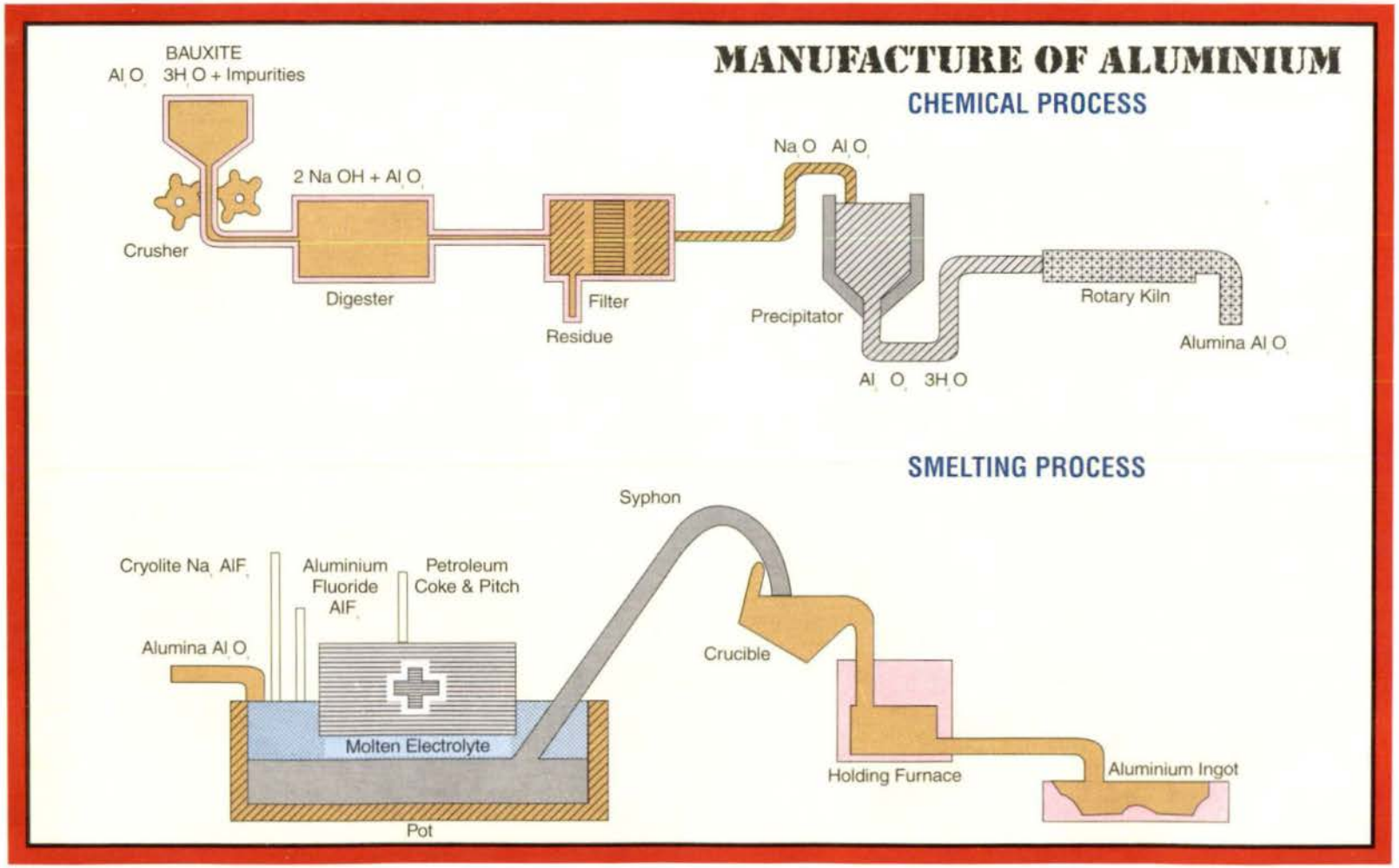
(Rs. in crore)

Particulars	1993-94	1994-95	1995-96	1996-97	1997-98
A.Financial Position					
1. Sources of funds					
i) Share Capital	488.85	488.85	488.85	488.85	488.85
ii) Reserves & Surplus	28.98	119.47	268.75	315.12	372.94
iii) Loan funds					
-Cash Credit (Secured)	13.28	2.61	Nil	Nil	Nil
-Govt. Loan	76.94	66.45	59.20	51.85	44.60
-Other loans	62.36	3.71	Nil	Nil	Nil
iv) Current Liabilities and Provisions	142.23	149.32	166.26	165.58	186.80
Grand Total (1)	812.64	830.41	983.06	1021.40	1093.19
2.Application of funds					
a) Fixed Assets					
Gross Block	820.84	847.00	888.58	897.58	911.92
Less: Depreciation	355.03	412.81	463.99	518.83	559.17
b) Net fixed Assets	465.81	434.19	424.59	378.75	352.75
c) Capital work in progress	57.66	68.66	40.69	38.15	30.68
d) Current Assets					
i) Inventories	177.83	142.82	185.41	205.27	170.67
ii) Sundry Debtors	46.71	38.68	49.67	47.58	25.72
iii) Other Current Assets, Loans and Advances	64.63	145.92	282.59	351.58	509.03
e) Misc. exp. not written off	-	0.14	0.11	0.07	4.34
Grand total (2)	812.64	830.41	983.06	1021.40	1093.19
3. Capital employed	670.41	678.96	791.45	837.02	893.89
4. Net worth	508.18	598.55	747.91	794.34	847.91
B. Working Results					
a) Expenditure					
1. Raw material consumed	109.02	108.00	128.47	150.35	133.67
2. Manufacturing Expenses (including D.R. expenses)	191.72	188.60	199.42	243.27	270.58
3. Excise Duty paid	122.05	118.69	90.79	95.69	110.31
4 Personnel Expenses	60.87	75.51	79.33	107.83	115.97
5. Interest paid	23.22	22.85	7.45	7.23	6.66
6. Selling & Distribution	16.64	17.60	11.97	18.02	18.30
7. Depreciation	34.21	59.79	48.86	44.86	41.00
8. Administration	28.48	25.21	25.48	32.11	28.72

Particulars	**1993-94**	**1994-95**	**1995-96**	**1996-97**	**1997-98**
Gross Expenditure	586.21	616.25	591.77	699.36	725.21
Less					
Transferred to pot relining Expenditure Incidental expenditure during construction	0.24	0.42	-	-	-
Total Net Expenditure (a)	585.97	615.83	591.77	699.36	725.21
b) INCOME					
Sales	627.99	716.53	691.59	761.83	848.97
Other income	11.79	15.66	26.63	45.41	47.64
Accretion/Decretion in stock	(-)36.97	(-)23.23	40.05	19.29	(-)36.61
Total INCOME (b)	602.81	708.96	758.27	826.53	860.00
Profit for the year	16.84	93.13	166.50	127.17	134.79
Prior period Expenditure (-)/Income	(-)1.26	(-)2.62	(-)3.16	(-)0.86	0.08
Provision for Taxation	0.30	-	-	64.52	55.02
Net Profit	15.28	90.51	163.34	61.79	79.85

Annexure III

(Referred in para 6.1.1)



ANNEXURE-IV

(Referred in paras 6.1.1 & 6.1.2)

Sl.No.	Year	Installed capacity (MT)	Targeted production (MT)	Actual production (MT)	Capacity utilisation (%)
1	2	3	4	5	6
1.	**ALUMINAHYDRATE**				
	1993-94	2,00,000	1,82,000	1,82,040	91
	1994-95	2,00,000	1,90,000	1,68,660	84
	1995-96	2,00,000	2,00,000	1,83,005	92
	1996-97	2,00,000	1,82,000	1,77,005	89
	1997-98	2,00,000	1,85,000	1,79,885	90
2	**CALCINED ALUMINA**				
	1993-94	2,00,000	1,82,000	1,82,010,	91
	1994-95	2,00,000	1,90,000	1,65,215	83
	1995-96	2,00,000	1,95,000	1,76,660	88
	1996-97	2,00,000	1,80,000	1,72,800	86
	1997-98	2,00,000	1,82,000	1,80,020	90
3.	**ALUMINIUM HOT METAL**				
	1993-94	1,00,000	91,000	92,064	92
	1994-95	1,00,000	95,000	92,469	92
	1995-96	1,00,000	1,00,000	94,423	94
	1996-97	1,00,000	95,000	92,262	92
	1997-98	1,00,000	93,000	89,038	89
4.	**WIRE RODS**				
	1993-94	35,000	30,500	32,711	93
	1994-95	35,000	35,000	37,186	106
	1995-96	42,000	33,000	38,882	93
	1996-97	42,000	40,000	34,392	82
	1997-98	42,000	42,000	30,588	73
5.	**ROLLED PRODUCT**				
	1993-94	40,000	30,000	25,512	64
	1994-95	40,000	30,000	35,074	88
	1995-96	40,000	55,000	32,056	80
	1996-97	40,000	38,000	29,240	73
	1997-98	40,000	35,000	35,786	89
6.	**EXTRUSIONS (EXTRUDED PRODUCTS)**				
	1993-94	7,000	7,200	4,403	63
	1994-95	7,000	6,000	6,375	91
	1995-96	7,000	6,500	6,941	99
	1996-97	7,000	7,500	6,237	89
	1997-98	7,000	7,000	5,939	85

ANNEXURE-V

(Referred in para 6.2.1.4)

Statement showing extra expenditure incurred on account of drawl of Power from Madhya Pradesh Electricity Board

Year	Total power consumption KWH	Power generation at BCPP (Net KWH)	Power drawn from MPEB KWH	Rate per unit BCPP Rs./KWH	Rate per unit MPEB Rs./KWH	Difference per unit Rs./KWH	Extra Expenditure (Rs in lakh) (4x7)
1	2	3	4	5	6	7	8
1993-94	188,48,00,068	178,36,19,400	10,11,80,668	0.64	4.41	3.77	3,814.51
1994-95	189,26,74,465	178,59,19,800	10,67,54,665	0.76	3.83	3.07	3,277.37
1995-96	192,33,87,134	185,71,93,800	6,61,93,334	0.72	5.59	4.87	3,223.62
1996-97	189,03,66,532	174,93,56,200	14,10,10,332	0.78	4.35	3.57	5,034.07
1997-98	189,71,09,665	178,84,79,001	10,86,30,664	0.91	5.51	4.60	4,997.01
							20,346.58

AnnexureVI

(Referred in para 8.3)

Saleable Aluminium Products

(In tonnes)

Year	Particulars	Rolled products	Extrusion	Foil	Conductor
1993-94					
i)	Assessed Capacity	3600	1000	600	1200
ii)	Target of Production	1300	600	400	750
iii)	Actual production	846	176	274	197
iv)	%age of Actual production to assessed capacity	24	18	46	16
v)	%age of Actual Production to Target	65	29	69	26
1994-95					
i)	Assessed capacity	3600	1000	600	1200
ii)	Target of Production	1300	600	400	800
iii)	Actual production	1356	598	466	294
iv)	%age of Actual production to assessed capacity	38	60	78	25
v)	%age of Actual Production to Target	104	100	117	37
1995-96					
i)	Assessed capacity	3600	1000	600	1200
ii)	Target of Production	1300	600	450	470
iii)	Actual production	1210	602	474	250
iv)	%age of Actual production to assessed capacity	34	60	79	21
v)	%age of Actual Production to Target	93	100	105	53
1996-97					
i)	Assessed capacity	3600	1000	600	1200
ii)	Target of Production	1100	800	500	450
iii)	Actual production	803	546	418	197
iv)	%age of Actual production to assessed capacity	22	55	70	16
v)	%age of Actual Production to Target	73	68	84	44

Year	Particulars	Rolled products	Extrusion	Foil	Conductor
1997-98					
i)	Assessed capacity	3600	1000	600	1200
ii)	Target of Production	1250	750	550	200
iii)	Actual production	954	574	383	84
iv)	%age of Actual production to assessed capacity	27	57	64	7
v)	%age of Actual Production to Target	76	77	70	42