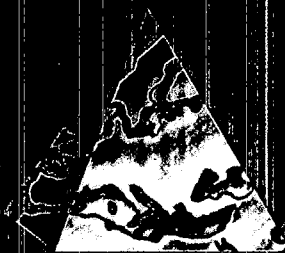




multi-faceted



aiming upwards



an eye to the future



the shape of things to come.

National Aluminium Company Limited



## VISION

*To be a company of  
global repute in Aluminium Sector*

## MISSION

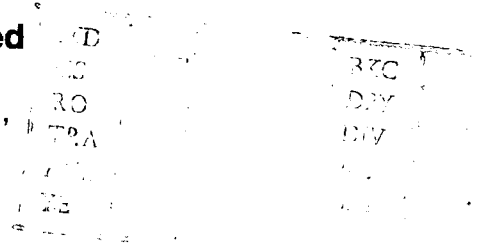
*To achieve growth in business with  
global competitive edge providing  
satisfaction to the customers,  
employees, shareholders and  
community at large.*



## **National Aluminium Company Limited**

(A Government of India Enterprise)

Regd. Office : NALCO BHAWAN, Plot No.P/1,  
Nayapalli, Bhubaneswar - 751 013 (Orissa)



### **NOTICE**

Notice is hereby given that the 17th Annual General Meeting of the Company will be held on Saturday, the 26th September, 1998 at 11.00 A.M. at NALCO BHAWAN, Plot No.P/1, Nayapalli, Bhubaneswar - 751 013 to transact the following business :

#### **ORDINARY BUSINESS :**

1. To receive, consider and adopt the Directors' Report, audited Balance Sheet as on 31st March'98 and the Profit & Loss Account for the year ended 31st March, 1998 together with the report of the Auditors thereon.
2. To declare a dividend.
3. To appoint a Director in place of Shri G. S. Panda, who retires by rotation and being eligible, offers himself for re-appointment.

#### **SPECIAL BUSINESS :**

4. Appointment of Shri S. B. Nayak, as Director whose period of office is liable to be determined by rotation.  
To consider and if thought fit, to pass with or without modifications, the following resolution as an ordinary resolution :  
"Resolved that Shri S. B. Nayak be and is hereby appointed as a Director of the Company, whose period of office is liable to be determined by rotation."
5. Appointment of Dr.(Smt.) Aruna Bagchee, as Director whose period of office is liable to be determined by rotation.  
To consider and if thought fit, to pass with or without modifications, the following resolution as an ordinary resolution :  
"Resolved that Dr.(Smt.) Aruna Bagchee be and is hereby appointed as a Director of the Company, whose period of office is liable to be determined by rotation."
6. Appointment of Shri K. N. Misra, as Director whose period of office is liable to be determined by rotation.  
To consider and if thought fit, to pass with or without modifications, the following resolution as an ordinary resolution :  
"Resolved that Shri K. N. Misra be and is hereby appointed as a Director of the Company, whose period of office is liable to be determined by rotation."

By order of the Board

(K. N. RAVINDRA)  
COMPANY SECRETARY

Place: Bhubaneswar  
Date: 29.08.1998

**Notes:**

- (a) Explanatory Statements pursuant to Section 173(2) of the Companies Act, 1956, in respect of item Nos.4, 5 & 6 set out above are annexed hereto.
- (b) The agenda item No.3 regarding retirement of Director and appointment in his place is proposed, to comply with the provisions of Section 255 and 256 read with Section 9 of the Companies Act, 1956 which have become applicable to the Company, consequent on its ceasing to be a wholly owned Government Company as a result of disinvestment of some shares by the Government. Action for amendment of the relevant Article(s) of the Articles of Association of the Company has been taken. On receipt of overall policy decision of the Government in this regard, the Articles of Association will be amended.
- (c) A MEMBER ENTITLED TO ATTEND AND VOTE AT THE MEETING IS ENTITLED TO APPOINT A PROXY TO ATTEND AND VOTE INSTEAD OF HIMSELF. SUCH PROXY NEED NOT BE A MEMBER OF THE COMPANY. PROXIES IN ORDER TO BE EFFECTIVE MUST BE RECEIVED BY THE COMPANY NOT LESS THAN FORTY-EIGHT HOURS BEFORE THE COMMENCEMENT OF THE MEETING. A BLANK PROXY FORM IS ENCLOSED.
- (d) The Register of Members and Share Transfer Books of the Company will remain closed from 28.08.1998 to 26.09.1998 (both days inclusive) as notified in the press.
- (e) If dividend on shares as recommended by the Board of Directors is passed at the Meeting, payment of such dividend will be made on or after 26.09.1998 to those members, whose names appear on the Company's Register of Members on 26.09.1998.
- (f) Members are requested to notify immediately, change in their address, if any, specifying full address in block letters with PIN CODE of their Post Offices, to the Registered Office of the Company, quoting their Folio Number.
- (g) Members attending the meeting are requested to bring their copy of the Annual Report as extra copies will not be supplied.
- (h) Members holding shares in identical order of names in more than one folio are requested to write to the Company's Share Registry enclosing their share certificates to enable the Company to consolidate their holdings in one folio.
- (i) Members who have not encashed the dividend warrant(s) so far for the financial year 1994-95 are requested to make their claims to the Company immediately for its revalidation and subsequent encashment, since the unpaid or unclaimed dividend for the financial year 1994-95 will be transferred to the General Revenue Account of the Central Government in terms of the provisions of Section 205-A(5) of the Companies Act, 1956 after the expiry of 3 years from the date of transfer to unpaid dividend account i.e. on 28.12.98. Thereafter members may claim the same by submitting the application in prescribed Form-II to the Registrar of Companies, Chalachitra Bhawan (2nd Floor), Buxi Bazar, Cuttack-753 001, Orissa.



**National Aluminium Company Limited**

(A Government of India Enterprise)

Regd. Office : NALCO BHAWAN, Plot No.P/1,  
Nayapalli, Bhubaneswar-751 013 (Orissa)

*Dear Member,*

*We wish to print the name of your Banker, its Branch and Bank account number on the dividend warrant in order to protect you from any loss. This is necessary in view of frequently reported fraud cases of encashment of warrants by opening fake accounts.*

*We, therefore, request you to kindly send us the information as stated below. Your reply should reach the Company on or before the date of 17th Annual General Meeting.*

*In case you have already furnished Bank information for payment of Dividend in the previous years and there is no change in these particulars no further information need be given.*

*Please send the information in the attached proforma in a sealed cover.*

*Yours truly,  
for National Aluminium Company Limited*

**(K.N. RAVINDRA)**  
**COMPANY SECRETARY**

*Bhubaneswar*

..... tear here .....

**(USE CAPITAL LETTERS ONLY)**

Regd. Folio No. ....

Name. ....

Name of the Bank. ....

Branch. ....

Account

Current ☐

Savings ☐

(Please 3 at appropriate box)

Account No. ....

Signature. ....

Note : Signature shall be same as recorded with the Company earlier.





**ANNEXURE TO NOTICE**

**Explanatory Statement pursuant to Section 173(2) of the Companies Act, 1956.**

**Item No.4 :**

Shri S. B. Nayak was inducted to the Board as an Additional Director of the Company w.e.f. 28.10.97. In terms of Section 260 of the Companies Act, 1956. Shri S. B. Nayak holds office only upto the date of the ensuing Annual General Meeting. The Company has received a notice in writing from a member of the Company under Section 257 of the Companies Act, 1956, signifying his intention to propose the candidature of Shri S. B. Nayak as a Director of the Company, whose period of office is liable to be determined by rotation, along with the prescribed deposit. At present Shri S. B. Nayak is serving as Director (Production) of your Company. Your Directors feel that his association with the Board will be in the interest of the Company. It is considered desirable that the Company should continue to avail itself of his services as a Director and recommend this resolution for approval of the shareholders.

None of your directors except Shri S. B. Nayak, whose appointment is proposed herein, is interested in the proposed resolution.

**Item No.5:**

Dr.(Smt.)Aruna Bagchee was inducted to the Board as an Additional Director of the Company w.e.f. 02.12.97. In terms of Section 260 of the Companies Act, 1956. Dr.(Smt.)Aruna Bagchee holds office only upto the date of the ensuing Annual General Meeting. The Company has received a notice in writing from a member of the Company under Section 257 of the Companies Act, 1956, signifying his intention to propose the candidature of Dr.(Smt.)Aruna Bagchee as a Director of the Company, whose period of office is liable to be determined by rotation, along with the prescribed deposit. At present Dr. (Smt.) Aruna Bagchee is serving as Joint Secretary, Ministry of Steel & Mines, Government of India. Your Directors feel that her association with the Board will be in the interest of the Company. It is considered desirable that the Company should continue to avail itself of her services as a Director and recommend this resolution for approval of the shareholders.


None of your directors except Dr.(Smt.)Aruna Bagchee, whose appointment is proposed herein, is interested in the proposed resolution.

**Item No.6 :**

Shri K. N. Misra was inducted to the Board as an Additional Director of the Company w.e.f. 15.01.98. In terms of Section 260 of the Companies Act, 1956. Shri K. N. Misra holds office only upto the date of the ensuing Annual General Meeting. The Company has received a notice in writing from a member of the Company under Section 257 of the Companies Act, 1956, signifying his intention to propose the candidature of Shri K. N. Misra as a Director of the Company, whose period of office is liable to be determined by rotation, along with the prescribed deposit. At present Shri K. N. Misra is serving as Director (Personnel & Administration) of your Company. Your Directors feel that his association with the Board will be in the interest of the Company. It is considered desirable that the Company should continue to avail itself of his services as a Director and recommend this resolution for approval of the shareholders.

None of your directors except Shri K. N. Misra, whose appointment is proposed herein, is interested in the proposed resolution.

By order of the Board



**(K. N. RAVINDRA)  
COMPANY SECRETARY**

Place : Bhubaneswar  
Date : 29.08. 1998





**National Aluminium Company Limited**

(A Government of India Enterprise)

Regd. Office : NALCO BHAWAN, Plot No.P/1,  
Nayapalli, Bhubaneswar-751 013 (Orissa)

**ATTENDANCE SLIP**

**17th Annual General Meeting - 26th September, 1998 at 11.00 A.M**

Reg. Folio No. ....

I certify that I am a registered shareholder/proxy for the registered shareholder of the Company and hereby record my presence at the SEVENTEENTH ANNUAL GENERAL MEETING of the Company at NALCO BHAWAN, Plot No.P/1, Nayapalli, Bhubaneswar - 751 013, on Saturday, the 26th September, 1998.

Member's/Proxy's name in Block letters

Member's/Proxy's Signature

*Note : Please fill this attendance slip and hand it over at the entrance of the hall.*

—tear here—



**National Aluminium Company Limited**

(A Government of India Enterprise)

Regd. Office : NALCO BHAWAN, Plot No.P/1,  
Nayapalli, Bhubaneswar-751 013 (Orissa)

**FORM OF PROXY**

I/We.....  
of.....in the district of.....being a member/members of the above  
named Company hereby appoint.....of.....in  
the district of.....or failing him.....of  
.....in the district of.....as my/our proxy to vote for me/us  
on my/our behalf at the SEVENTEENTH ANNUAL GENERAL MEETING of the Company to be  
held on 26th September, 1998 and at any adjournment thereof.

Signed this.....day of .....1998 Reg.Folio No.....

Signature.....

Affix a  
Revenue  
Stamp of  
Re.1/-

*Note : This form in order to be effective should be duly stamped, completed and signed and must be deposited at the Registered Office of the Company, not less than 48 hours before the commencement of the Meeting.*



## National Aluminium Company Limited

### BOARD OF DIRECTORS

Shri S. N. Johri  
Shri A. H. Jung  
Dr. (Smt) Aruna Bagchee  
Shri G. S. Panda  
Shri C. Venkataramana  
Shri S. B. Nayak  
Shri K. N. Misra

### DIRECTOR (VIGILANCE)

Shri M. K. Mohanty

### EXECUTIVE DIRECTORS

Dr. R. C. Mohanty  
Shri P. L. Sahu  
Shri N. V. Badi  
Maj. A. Chowdhury  
Shri S. K. Mishra  
Shri M. S. Parija  
Shri S. K. Banerjee

### COMPANY SECRETARY

Shri K. N. Ravindra

### BANKERS

State Bank of India

### REGISTERED & CORPORATE OFFICE

NALCO BHAWAN,  
Plot No. P/1, Nayapalli,  
Bhubaneswar-751 013 (Orissa)  
Tel. : 442301-08  
Fax : 0674-442470/442580/442640/442740

### AUDITORS

Brahmayya & Co.  
Chartered Accountants  
26-13-37, Sanyasi Raju Road  
Gandhi Nagar  
Vijayawada-520 003

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## The Year at a Glance – 1997-98

### PHYSICAL

	Units	1997-98	1996-97
Bauxite mining	MT	26,61,557*	25,58,002
Alumina production	MT	8,83,300*	8,40,062
Aluminium production	MT	2,00,162	2,03,823

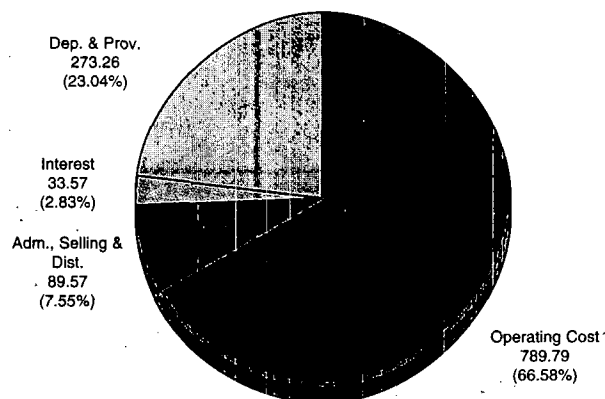
### FINANCIAL

	1997-98	1996-97
Sales Turnover (Rs. in Crore)	1853.54*	1768.86
Other Income (Rs. in Crore)	106.19*	54.94
Profit Before Tax (Rs. in Crore)	625.43*	555.91
Profit After Tax (Rs. in Crore)	546.97*	491.76
Export Turnover (Rs. in Crore)	679.48*	637.86
Earning per Share (in Rs.)	4.24*	3.82
Book Value per Share (in Rs.)	26.21*	23.05

\*Highest ever

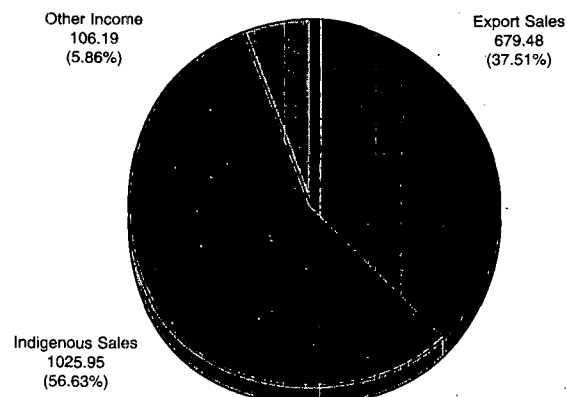
### Break-up of Total Cost

(Rs. in Cr.) (%)



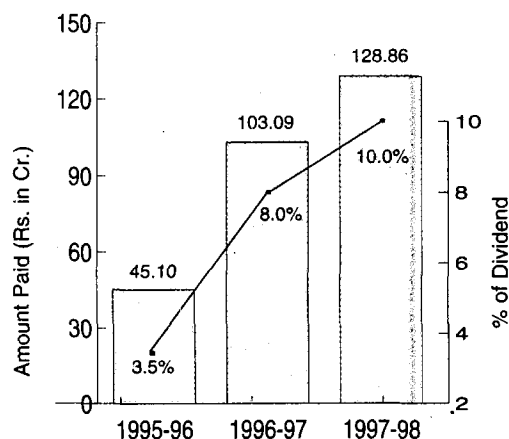
### Break-up of Earnings

(Rs. in Cr.) (%)



### Dividend Payment

●	% of Dividend
□	Amount Paid (Rs. in Cr.)



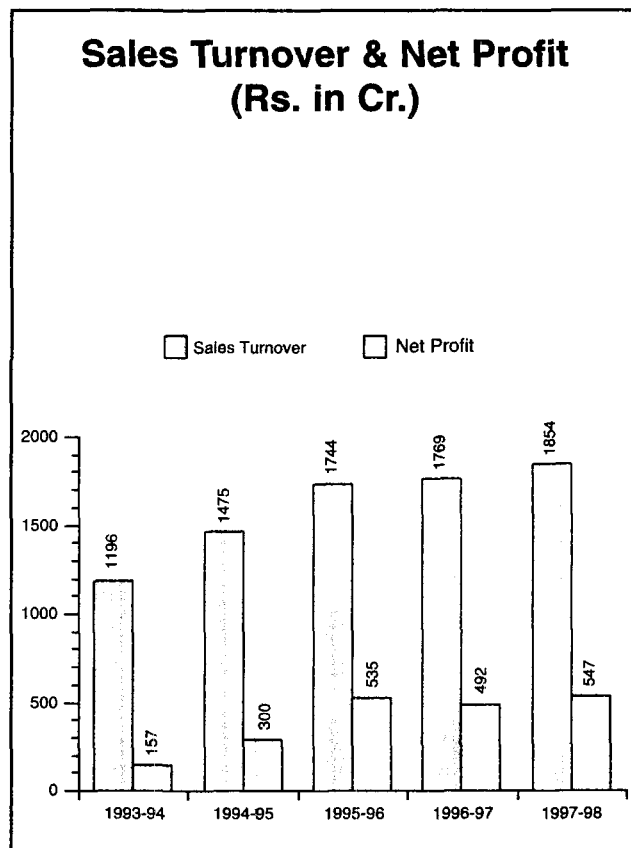
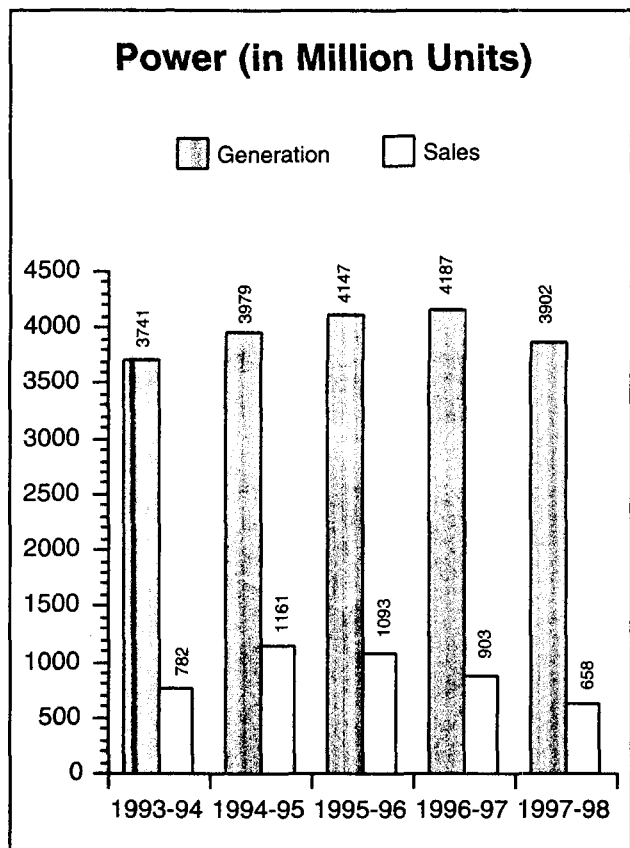
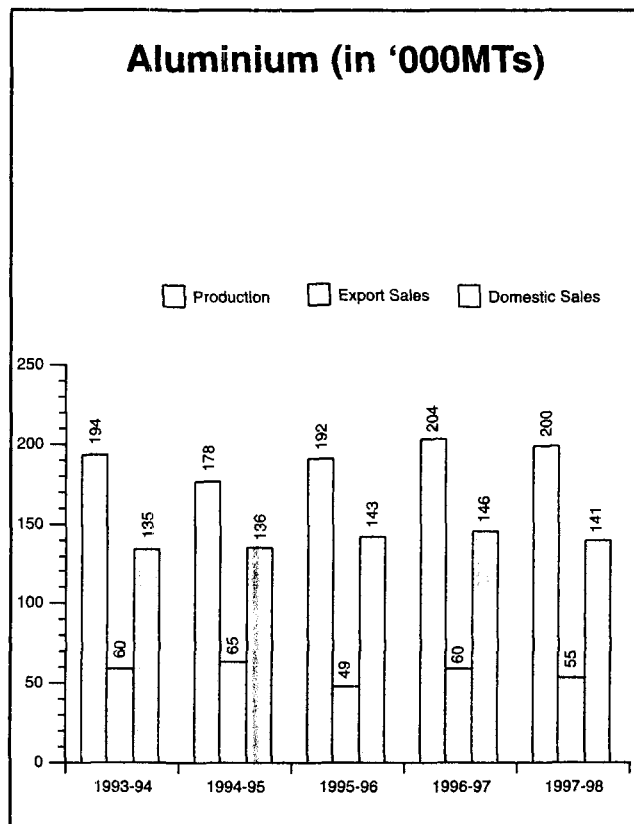
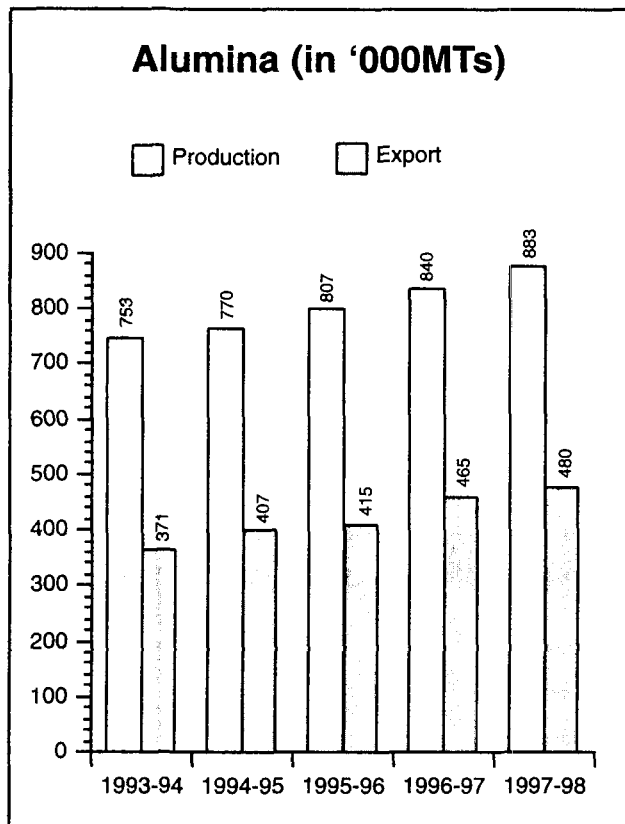
## 10 Years Performance at a Glance – Physical

Sl. No.	Particulars	Units	1997-98	1996-97	1995-96	1994-95	1993-94	1992-93	1991-92	1990-91	1989-90	1988-89
1.	<b>Production :</b>											
	Bauxite	MT	26,61,557	25,58,002	24,08,472	21,38,344	24,35,596	22,67,320	18,60,000	19,20,000	22,30,040	17,48,448
	Alumina	MT	8,83,300	8,40,062	8,07,130	7,70,000	7,53,021	8,03,500	6,72,200	6,52,485	7,39,000	5,62,100
	Aluminium	MT	2,00,162	2,03,823	1,92,288	1,78,072	1,94,332	1,91,069	1,92,022	1,51,330	1,35,018	78,803
	Power (net)	MU	3,902	4,187	4,147	3,979	3,741	3,690	3,531	2,654	2,533	2,156
2.	<b>Export Sales :</b>											
	Alumina/Hydrate	MT	4,79,801	4,65,139	4,15,209	4,07,405	3,71,286	4,29,428	3,78,446	3,35,401	4,48,616	3,84,161
	Aluminium	MT	55,475	60,357	49,128	65,307	60,037	85,771	61,117	27,877	27,391	14,875
3.	<b>Domestic Sales :</b>											
	Alumina	MT	348	3,515	4,870	4,608	428	764	3,380	7,549	24,734	8,066
	Aluminium	MT	1,40,660	1,45,521	1,43,092	1,36,356	1,35,490	1,04,390	1,08,302	1,28,813	98,843	63,967
	Power	MU	658	903	1,093	1,161	782	731	548	251	373	679

## 10 years performance at a Glance-Financial

(Rs. in crore)

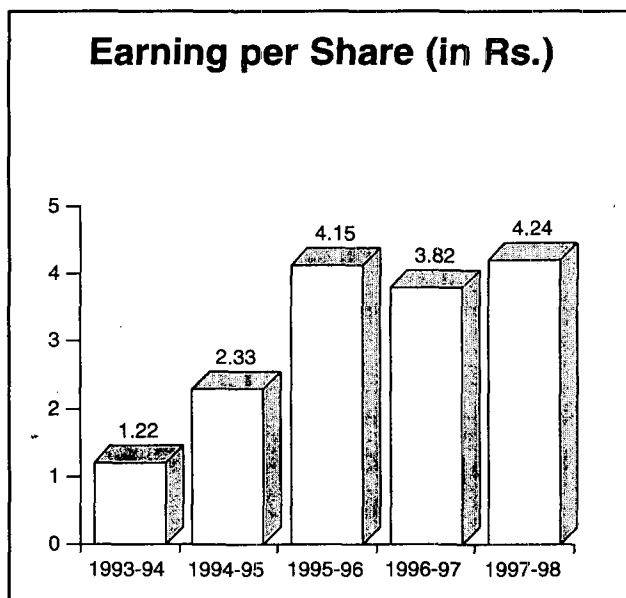
Sl. No.	Particulars	1997-98	1996-97	1995-96	1994-95	1993-94	1992-93	1991-92	1990-91	1989-90	1988-89
<b>1.</b>	<b>Income Statement:</b>										
	Gross Sales	1,853.54	1,768.86	1,743.98	1,474.96	1,195.96	1,169.11	974.03	884.04	846.01	438.74
	Export	679.48	637.86	577.58	485.64	411.72	538.34	385.77	277.78	416.01	211.08
	Domestic	1,174.06	1,131.00	1,166.40	989.32	784.24	630.77	588.26	606.26	430.00	227.66
	Earning before Interest, Tax & Depreciation (EBITD)	827.08	758.12	847.99	653.63	441.08	434.72	387.23	356.76	420.49	204.82
	Depreciation & Amortisation of DRE	274.32	265.79	285.78	258.36	223.29	219.52	232.73	164.31	141.31	110.38
	Interest & Financing charges	33.57	9.08	64.83	184.02	126.90	119.84	190.44	183.50	177.80	120.17
	Profit for the year	626.13	538.19	558.10	279.23	136.00	152.81	50.42	79.95	172.03	12.95
	Prior Period Adjustments (Net)	(0.70)	17.72	(22.82)	20.94	20.72	(17.93)	8.72	(8.00)	(15.16)	5.97
	Extraordinary Income	Nil	Nil	79.29	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Provision for Tax	78.46	64.15	0.02	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Net Profit/(Loss) (PAT)	546.97	491.76	614.55	300.17	156.72	134.88	59.14	71.95	156.87	18.92
<b>2.</b>	<b>Balance Sheet :</b>										
	Equity Capital	1,288.62	1,288.62	1,288.62	1,288.62	1,288.62	1,288.62	1,288.62	1,288.62	1,288.62	1,288.62
	Reserves & Surplus	2,088.50	1,681.91	1,300.67	717.05	475.42	281.33	157.51	127.05	48.56	(51.16)
	Networth	3,377.12	2,970.53	2,589.29	2,005.67	1,764.04	1,569.95	1,446.13	1,415.67	1,337.18	1,237.46
	Loans outstanding	594.10	580.00	1,024.91	1,774.28	2,321.54	2,630.57	2,652.06	1,835.49	1,728.64	1,695.90
	Net Fixed Assets	2,545.35	2,730.55	2,948.20	3,091.58	3,011.31	3,149.83	3,286.58	2,594.73	2,476.91	2,175.69
	Net Current Assets	1,192.65	689.53	582.34	566.45	772.49	788.64	612.26	512.63	357.27	275.14
	Capital Employed	3,738.00	3,420.08	3,593.70	3,658.03	3,783.80	3,938.47	3,898.84	3,107.36	2,834.18	2,450.83
<b>3.</b>	<b>Ratios :</b>										
	Operating Margin (OPM) (%)	29.51	27.80	30.69	20.35	13.10	11.54	6.07	8.14	18.54	4.31
	Return on Capital Employed (ROCE) (%)	14.63	14.38	14.89	8.21	4.14	3.42	1.52	2.32	5.53	0.77
	Return on Networth (RONW) (%)	16.20	16.55	20.67	14.97	8.88	8.59	4.09	5.08	11.73	1.53
	Debt Equity (%)	17.59	19.53	39.58	88.46	131.60	167.56	183.39	129.66	129.28	137.05
<b>4.</b>	<b>Book value per share (in Rs.)</b>	<u>26.21</u>	23.05	20.09	15.56	13.69	12.18	11.22	10.99	10.38	9.60
<b>5.</b>	<b>Earning per share (in Rs.)</b>	<u>4.24</u>	3.82	4.15	2.33	1.22	1.05	0.46	0.56	1.22	0.15



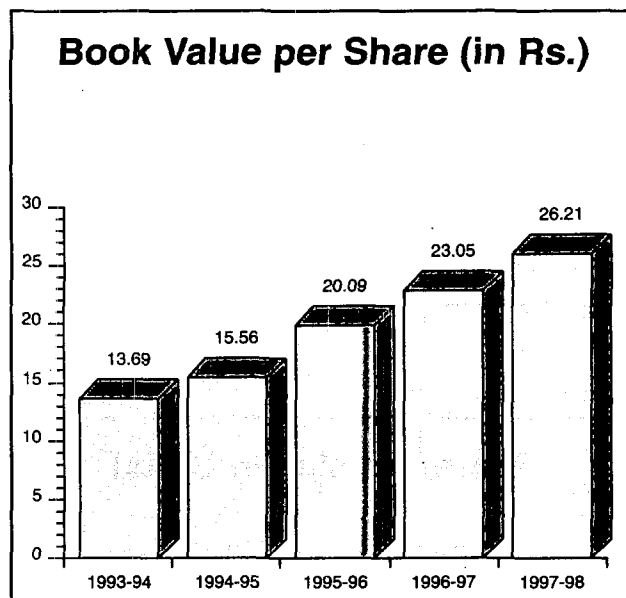
**Shareholding Pattern (As on 31.03.98)**

Category	No. of equity shares held	Number of Shareholders	Amount (in Cr.)	% of Equity
President of India	112,29,99,270	1	1122.99	87.1475
Foreign Institutional Investors (FIIs)	2,94,13,200	64	29.41	2.2825
Unit Trust of India	10,17,49,700	1	101.74	7.8960
Insurance Companies	56,99,100	6	5.69	0.4422
Banks	2,45,800	4	0.24	0.0191
Mutual Funds	2,01,04,600	40	20.10	1.5602
Others	84,07,530	20107	8.40	0.6525
		<b>20,223</b>		

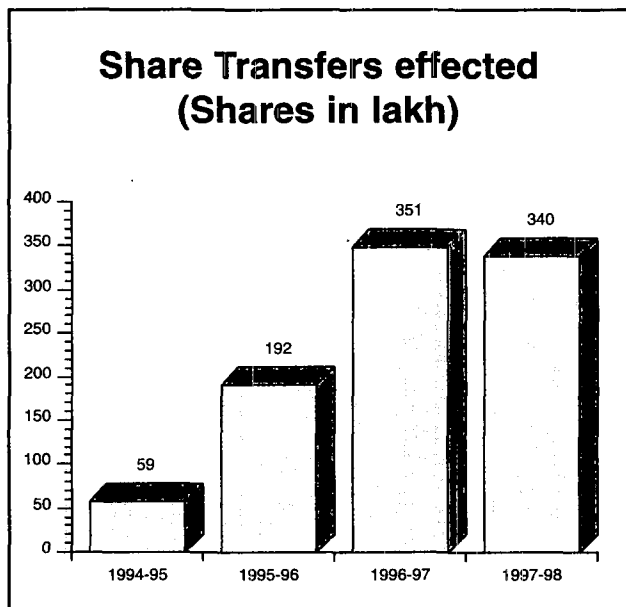
**Earning per Share (in Rs.)**



**Book Value per Share (in Rs.)**

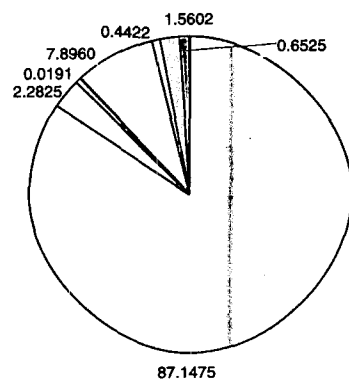


**Share Transfers effected (Shares in lakh)**



**Shareholding Profile as on 31.03.98**

- ☐ President of India
- ☐ Foreign Institutional Investors (FIIs)
- ☐ Banks
- ☐ Unit Trust of India
- ☐ Insurance Companies
- ☐ Mutual Funds
- ☐ Others





## Expansion and Diversification Plans

NALCO has launched expansion and diversification projects to widen and deepen the market share of the Company.

### EXPANSION:

#### M&R Complex:

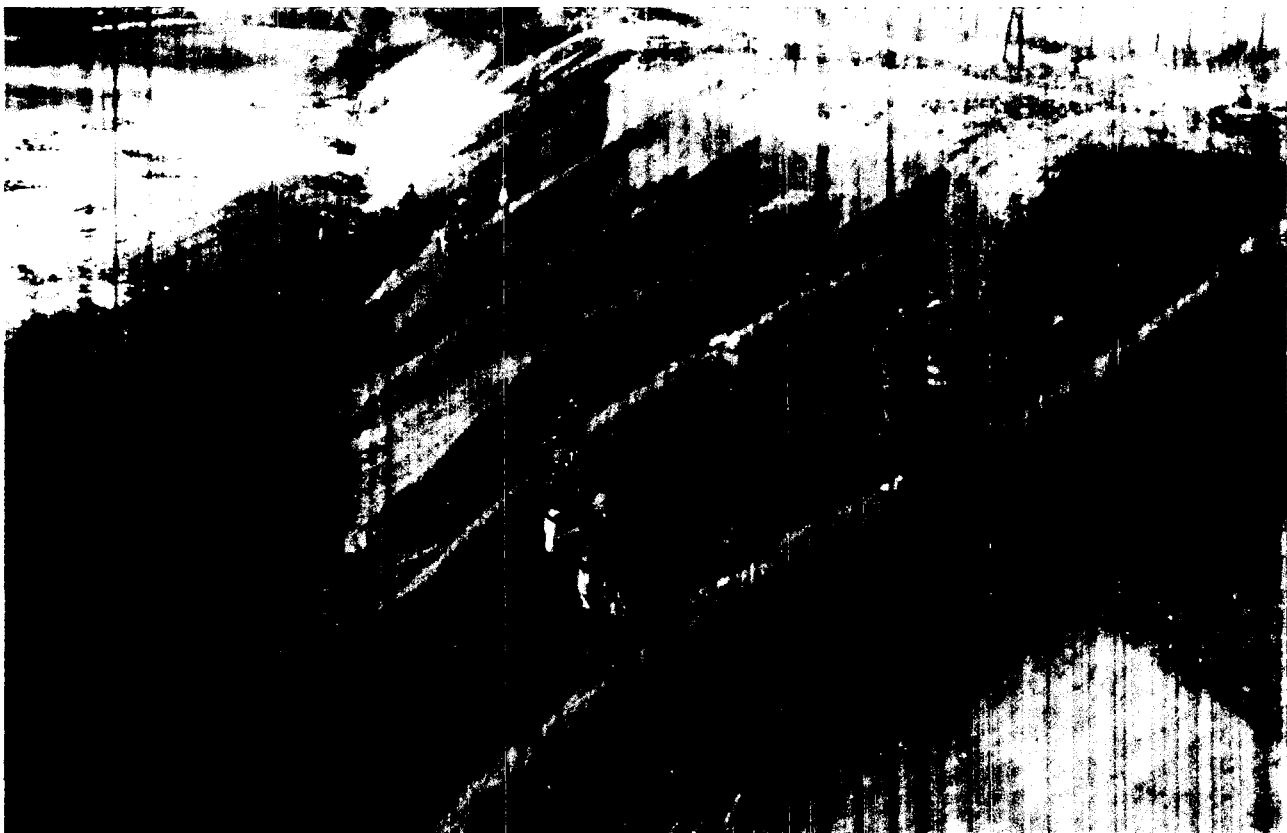
After the Government of India approved the proposal for expansion of the Bauxite Mines and Alumina Refinery vide letter dtd. 18th

December '96, the project activities are going apace.

The atmospheric pressure digestion technology of Aluminium Pechiney (AP), France used in the existing plant is being adopted for the expansion with certain improvements developed by AP on the existing process. The Basic Engineering Package has since been received by NALCO.

The salient features of expansion are :

Unit	Existing capacity	Capacity after expansion	Project cost	Project completion*
Bauxite Mines	24,00,000TPY	48,00,000 TPY	Rs.120.59 Cr.	36 months
Alumina Refinery	8,00,000TPY	15,75,000 TPY	Rs.1544.01Cr.	51 months
*from the date of Government approval.				



Site Grading in progress at mines

## Expansion and Diversification Plans

As indicated below, various Consultants have been appointed for carrying out Engineering, Procurement and Construction Management :-

adopted for the expansion of Smelter with the various improvements developed by AP in Carbon area, process control etc. An

### Project Segment Consultant

Mines  
Refinery  
Steam Generation Plant  
Township  
Railway Facility  
Material Handling  
Facilities and Port  
Facilities at Vizag.

M/s. Engineers India  
Ltd., New Delhi

M/s. MECON, Ranchi

The Detailed Engineering, Tendering and Ordering activities are progressing as per schedule. While Major Civil & Structural Contracts have been finalised, the orders for some major items like Primary Crusher, Apron Feeder for Mines, Modification of existing Calcliner and Evaporator, major Mining equipment, Kelly Filters etc. have also been placed.

#### Aluminium Smelter Plant:

The approval for expansion of Aluminium Smelter and Captive Power Plant (CPP) at Angul has been received from Govt. of India vide letter dtd.03.03.98.

The existing 180 KA technology of AP is being

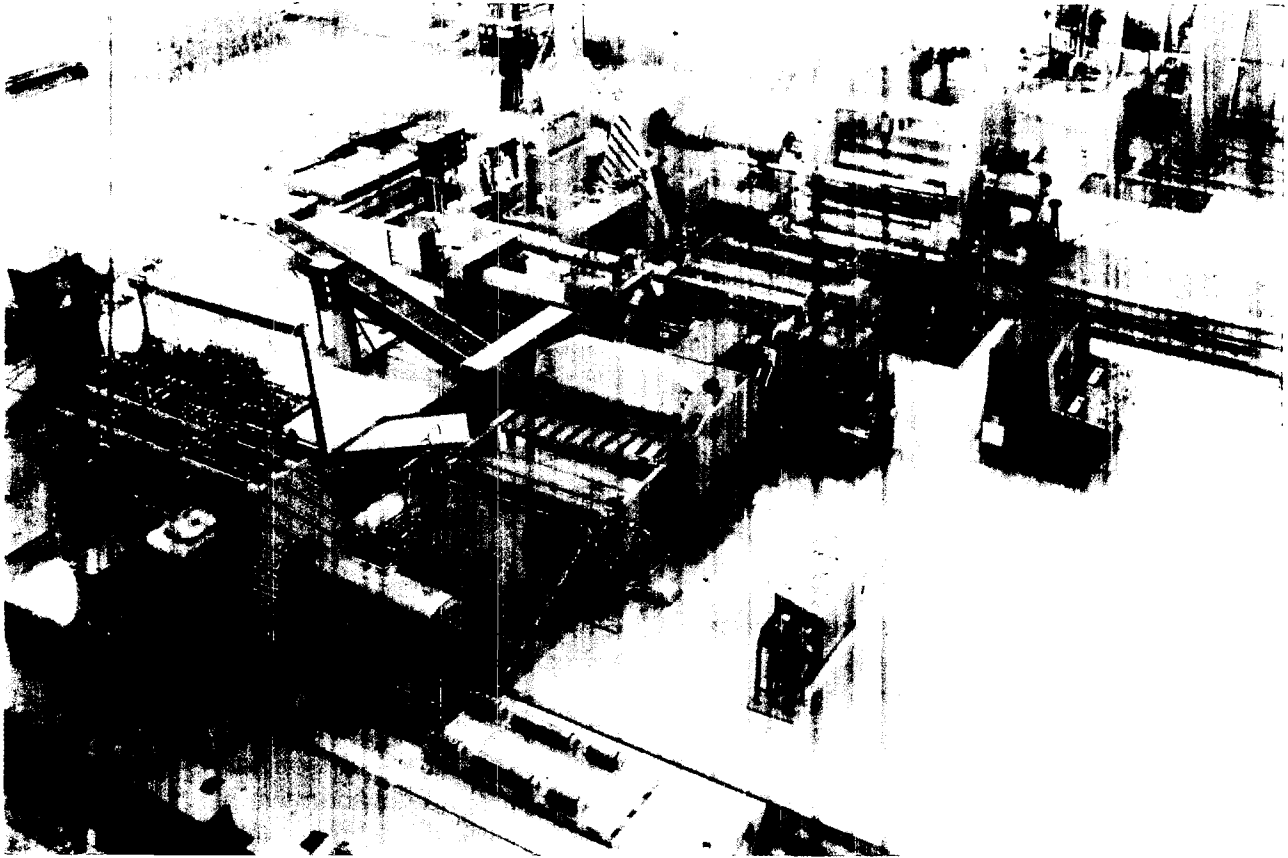
amendment to the Technical Collaboration Agreement has been signed with AP on 28.04.98 for the above.

While EIL has been appointed as the Consultant for providing the Engineering , Procurement and Construction Management services for the Smelter plant, M/s. M. N. Dastur & Co. have been appointed for the Captive Power Plant for similar scope of work. The process of appointment of Consultants for other facilities like Township, Railways etc. is under way.

The project is proposed to be financed from your Company's internal resources and external borrowings. The details will be worked out at the appropriate time.

The salient features of the Smelter and Captive Power Plant expansion are:				
Unit	Existing capacity	Capacity after expansion	Project cost	Project completion*
Smelter	2,30,000 TPY	3,45,000 TPY	Rs.1641.98Cr.	51 months
CPP	6X120 MW	7 X 120 MW	Rs.420.00 Cr.	51 months
* from the date of approval of Government.				

## Expansion and Diversification Plans



Strip Casting Facility at Angul

### DIVERSIFICATION:

#### Strip Casting Facility:

In order to broaden the product range, your Company is going ahead with the implementation of Strip Casting Facility at its Smelter Plant at Angul. The details of the project are as under :

Capacity	26,000 TPY
Product	Aluminium Alloy Strips in coil form
	Width : 1660 mm
	Thickness 6.35 mm to 10 mm
	Coil weight : 10 T.

Project cost Rs.76.43 crore

The project has since been commissioned.

#### Aluminium Wheel Project:

The Board has approved setting up of an Aluminium Wheel Project comprising of a 10,000 TPY Wheel Ingot Line at Smelter, Angul and a 4,50,000 wheels per year Alloy Wheel Plant at Chandaka, Bhubaneswar at a

total estimated cost of Rs.92.56 crore. M/s Mecon has been appointed as Engineering Consultant for the project. NALCO has already purchased 11.05 acres of land at Chandaka, Bhubaneswar for the Alloy Wheel Plant at a cost of Rs.1.1 crore. Tendering action for site grading, site survey and construction of boundary wall has already been initiated. The finalisation of technology supplier is at an advanced stage. The project will be implemented within 27 months from the date of finalising the technology supplier.

#### Equity Participation in International Aluminium Products Limited (IAPL):

As a part of development of downstream projects, NALCO's proposal for participation upto 26% of equity amounting to Rs. 30.82 crore in IAPL, a 100% EOU Company, has been approved by the Govt. of India. An amount of Rs.15.92 crore has already been released. The project is being established with an installed capacity of 50,000 TPA of Cold Rolled Aluminium Sheets and Coils.

## Expansion and Diversification Plans

### DIVERSIFICATION THROUGH R&D EFFORTS:

#### Special Grade Alumina Project:

##### Addition to Business Portfolio of NALCO:

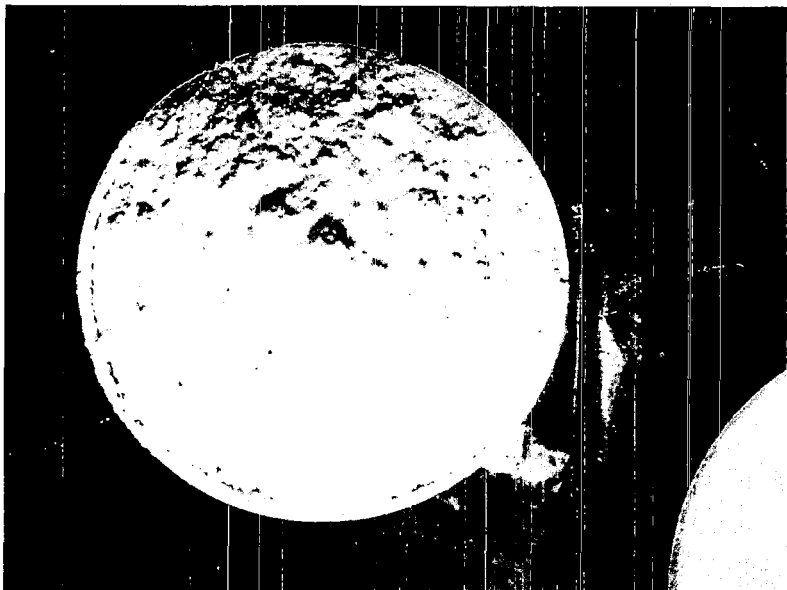
The Company, as a part of its growth and diversification plans, has now launched a series of Special Hydrate and Alumina (Chemical Grade Alumina or CGA) products, which find a variety of modern applications. Wide range of products are manufactured with controlled crystal size, purity and alpha content (in case of alumina) to meet the requirements of refractory, ceramic and other chemical industries.

#### Customised Products & Technical Marketing Service:

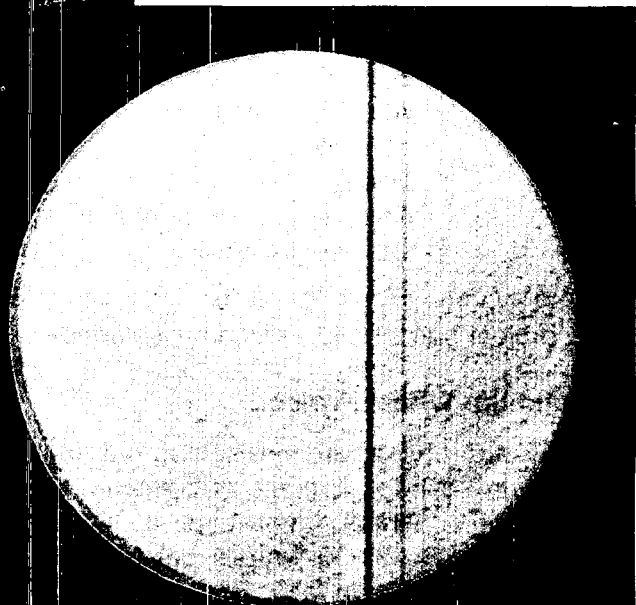
A 600 TPA pilot plant has already been commissioned with in-house expertise, at a cost of Rs.3.29 crore for production of Special Alumina. Over 240 MT of Special Hydrate products have already been sold. Response from international customers is encouraging. There are plans to market over 20 varieties of Special Hydrate products during the year.

Further, a 26,400 MT capacity plant is being set up at a cost of Rs.56.78 crore to produce variety of CGA products based on the technology imported from USA. The pilot plant and the Main plant are located adjacent to Refinery Complex of NALCO at Damanjodi.

Each area of application of these special products has its own process and operating conditions. At Corporate Office, NALCO's Speciality Products Marketing Group, with its Research & Development background, provide necessary technical services in selection of proper grade of speciality hydrates and alumina for gainful applications. In its quest for more value-added products and continued research work, NALCO has developed process parameters and technology to meet the exacting requirements of customers. Process parameters are standardised for reproducibility, consistency and above all quality as the key ingredients. Development of different grades of speciality hydrates and alumina are a collaborative effort of laboratory tests, field trials, feed backs and continuous improvement in the process.



Special Hydrate



Special Alumina

## Expansion and Diversification Plans

### Zeolite Project:

In recent years, there is wide acceptance and interest in the eco-friendly builder material-Zeolite-A, for detergent industries. The most important reason is the necessity to reduce or eliminate the eutrophication (a process of diminishing the percentage of dissolved oxygen in water and thereby affecting marine life) of rivers and lakes caused by phosphates, presently under use in detergents. This has led to the birth of Zeolite-A, as phosphate substitute builder-material in detergent and cleaning agents.

### Zeolite-A:

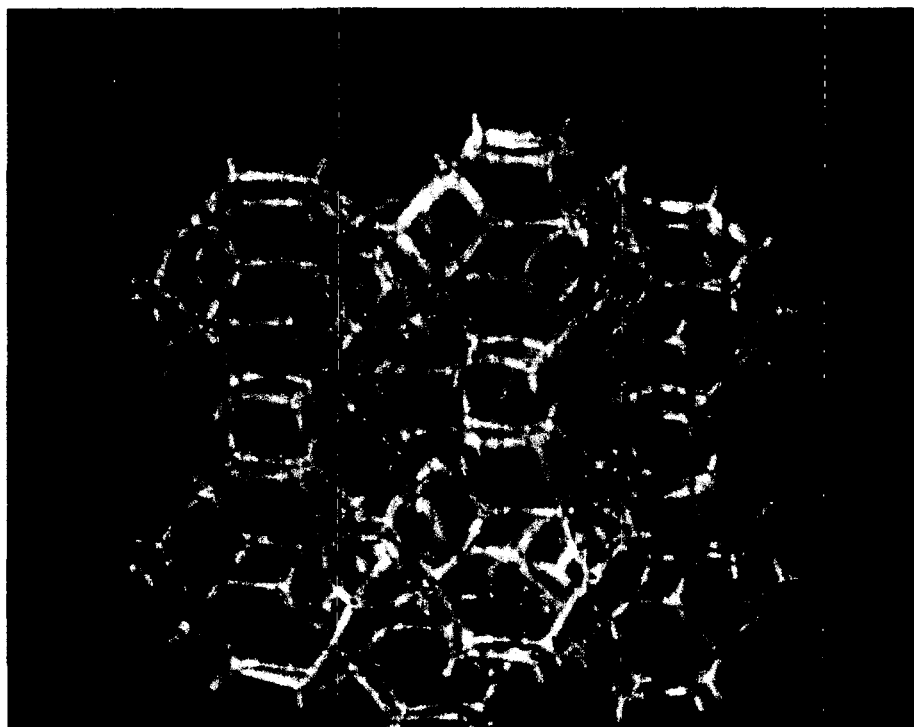
Your Company is installing a 10,000 TPA Zeolite-A project at a cost of Rs.24.10 crores at Damanjodi. The project is likely to be commissioned during 1999.

NALCO's Detergent Grade Zeolite-A Plant is based on the technology developed by CSMCRI, Bhavnagar, licensed through NRDC and scaled up to appropriate commercial size for the first time in the country. In addition, use of sodium aluminate liquor ( main raw material)

from Alumina Refinery is expected to produce high quality Zeolite-A which is cost-effective. Zeolite-A Plant is located adjacent to Refinery Complex of NALCO at Damanjodi and is environment friendly. The product quality specification of NALCO Zeolite-A is at par with international standards.

### Gallium Project:

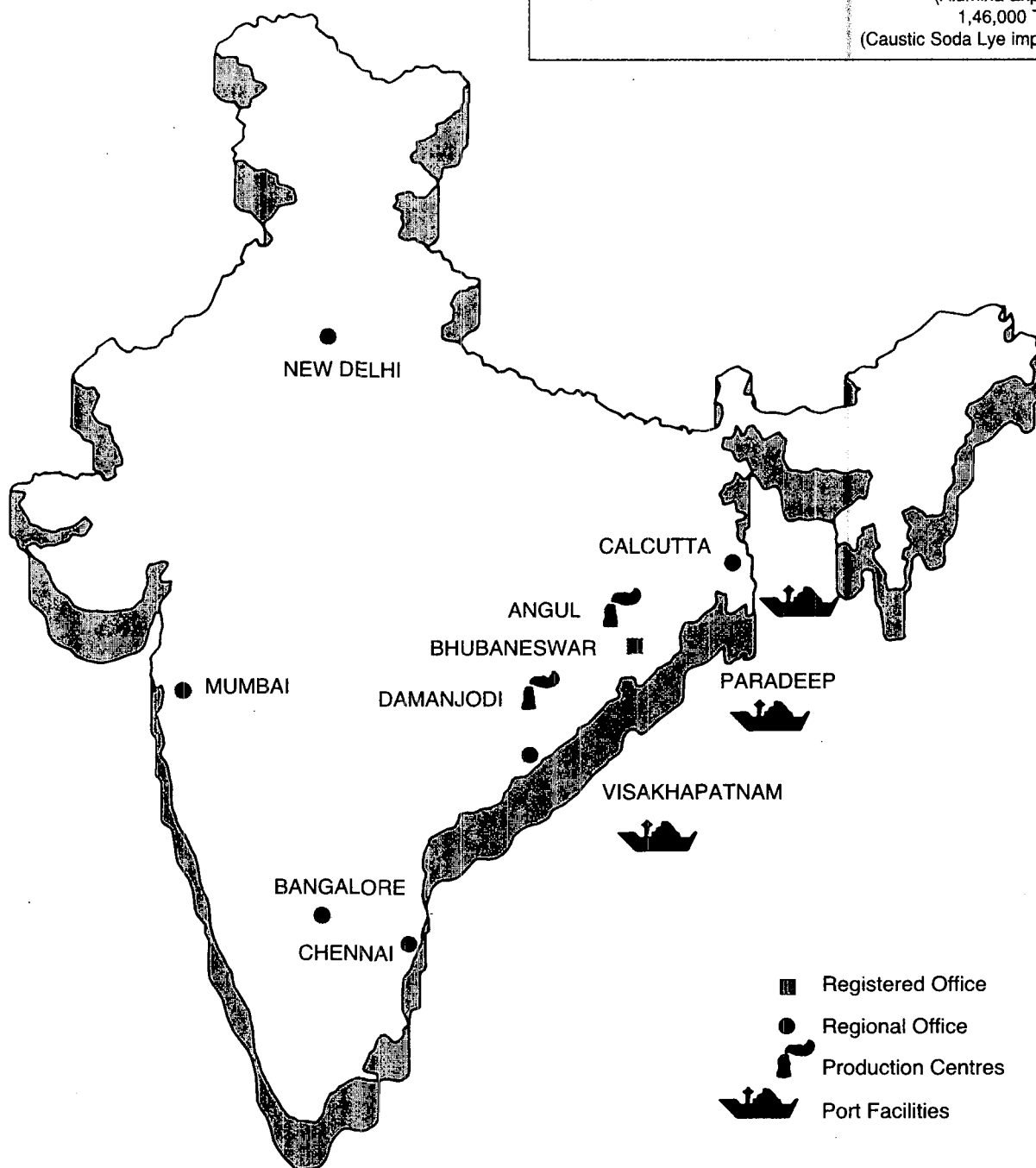
A 950 kg. per annum Gallium Plant to the purification level of 5N grade is being planned based on the indigenous technology back up from CECRI, Karaikudi and NFC, Hyderabad. The Project cost estimates are Rs.12.77 crore and location would be at Mines & Refinery Complex, Damanjodi . Gallium being the Strategic Metal of National importance, Govt. of India has approved execution of the project. Government agencies like DST,DSIR, DRDO and NRDC are contributing Rs.1.355, Rs.2.170, Rs.1.355 and Rs.0.660 crore respectively and the balance amount of Rs.7.230 crore would be borne by NALCO. The project schedule is 24 months. M/s. EIL has been appointed as the engineering consultants for the project.



Detergent Grade Zeolite-A in molecular form

**NALCO's VARIOUS PRODUCTION UNITS, THEIR LOCATION & INSTALLED CAPACITIES**

1. Bauxite Mines	Panchpatmali	24,00,000 TPY
2. Alumina Refinery	Damanjodi	8,00,000 TPY
3. Smelter Plant	Angul	2,18,000 TPY
4. Captive Power Plant	Angul	720 MW
5. Port Facilities	Visakhapatnam	3,75,000 TPY
		(Alumina Export)
		1,46,000 TPY
		(Caustic Soda Lye Import)



## Directors' Report

To

The Members,

Your Directors take pleasure in presenting the 17th Annual Report of your Company together with the Audited Accounts for the year ended 31st March, 1998.

### Performance Highlights :

As India's leading manufacturer- exporter of Aluminium your Company has been maintaining an enviable track record year after year. During 1997-98 new records were established in various areas of its operation e.g. in Bauxite Mining, Alumina Production, Power Generation in auxiliary power generating system at Refinery, sales turnover, export earnings and Profit After Tax.

### Operations:

Streamlining of manufacturing activities has resulted in highest ever production of Bauxite Mining at 26,61,557 T and Alumina at 8,83,300 T against 25,58,002 T and 8,40,062 T respectively during the previous year thereby surpassing the rated capacity for the 4th consecutive year in both Bauxite Mining & Alumina production. The 3 x 18.5 MW power unit at Alumina Refinery has also registered a record generation of 262 MU against 250 MU achieved during 1996-97.

Port facilities at Visakhapatnam handled export of 4.80 lakh tonnes of Alumina, a record and 55,475 T of Aluminium apart from other input materials like coal tar pitch, baked anodes, caustic soda, carbon blocks, synthetic flocculants etc.

The production at Smelter has crossed 2 lakh tonnes mark for the second year in succession. Aluminium production at 2,00,162 T during the year was marginally lower than 2,03,823 tonnes achieved during 1996-97.

The 6 x 120 MW Captive Power Plant generated 3902 MU against 4187 MU during the previous year mainly due to export restriction by GRIDCO for over 1649 hours during the year.

Power outage coupled with unprecedented heat wave during April/May '98 have adversely affected the stability of pots since April '98. Normalcy is expected to be restored during the year. But this will have an adverse effect on metal production and its sale, during 1998-99.

### Marketing :

On the marketing front, your company performed quite satisfactorily. In spite of weak international alumina market due to finely balanced demand and supply levels, your Company achieved an all time high Calcined alumina export of 4.80 lakh tonnes during the year under report, exceeding the previous best of 4.65 lakh tonnes in 1996-97. Alumina exports together with export of 55,475 tonnes of metal enabled your company to achieve an all time high export earnings of Rs.679 Cr. exceeding the previous best of Rs.638 Cr. achieved in previous year.

In spite of the sluggish domestic metal market, your Company could sell 1,40,660 tonnes of metal in the

domestic market thereby helping to achieve an annual sales turnover of Rs. 1854 Cr., the highest so far.

International aluminium industry remained uncertain during the year. A strong rise in aluminium demand in the USA and Europe provided bullish sentiments to the market which led the prices to reach the year-high of US\$1776 per tonne on 7th August, 97. During the second half of the year, the economic crisis in the South-East Asian and Far-East countries coupled with the weakness in copper resulted in sharp fall in the price of aluminium metal to reach the year - low of US\$ 1415.5 per tonne on 23rd Feb, 98.

You will be pleased to know that a marketing development cell has been set up at the corporate level to formulate and define marketing strategy for special products like zeolite, gallium, special alumina etc. This cell has successfully marketed over 240 MT of certain special hydrate products on Pilot Scale. Your company is planning to commence trial sale of around 20 varieties of high tech and value added special hydrate and alumina products during the current year. Response from international customers to these products is encouraging.

### Finance :

You will be happy to know that your Company has established records on various financial parameters viz. Sales Turnover at Rs.1853.54 crore, Total income at Rs. 1983.71 crore, Profit Before Tax at Rs.625.43 crore, Profit After Tax at Rs.546.97 crore against the previous year figures of Rs.1768.86 crore, Rs.1818.70 crore, Rs.555.91 crore and Rs.491.76 crore respectively. Export income has gone up from Rs.637.86 crore during 1996-97 to Rs.679.48 crore during 1997-98. Other income has also gone upto Rs.106.19 crore from Rs.54.94 crore during previous year. The main reason for increase in other income is due to increase in investments on short term deposits of surplus funds being earmarked for repayment of 20 billion yen (Rs.594.10 crore) loan due for repayment on 30.09.98 and consequent increase in interest income. On repayment of this yen loan, your company will be a zero debt company.

For the fourth year in succession, the Company continued to finance all of its Working Capital needs and project financing requirements out of its internal generations.

### Dividend :

Your Directors are pleased to recommend a dividend rate of 10% on paid-up equity capital of Rs.1288.62 crore which works out to Rs.128.86 crore representing an increase of 25% over that of previous year. The above is subject to the approval of the members at AGM. Approval of central Government under section 205(1) (c) of the companies Act, 1956 has already been obtained. The dividend recommended works out to 23% of Profit After Tax (PAT) for the year 1997-98. Besides, the Company is required to absorb Rs.12.86 crore towards income tax on the above on behalf of the shareholders.

## Directors' Report

An amount of Rs. 400 Cr. out of the profits is proposed to be transferred to General Reserve Account. The total General Reserve stands at Rs.2093.18 Cr. as on 31.03.98.

### Human Resources :

Your Company continues to accord top priority to harnessing of human resources, not only to meet the compulsions of changing economic scenario, but also to successfully handle the ongoing expansion and growth plans.

Your Company has been able to build up an excellent resource base in technical and managerial cadres by recruiting bright Graduate Engineer Trainees and Management Trainees in keeping with the long term strategic manpower needs. During the year 35 GETs & 8 MTs were inducted.

HRD sub-systems like Open Forum, Suggestion & Reward Scheme (Sarjana) and Mentoring Scheme are being implemented in various divisions of the Company. The impact is clearly visible in employee empowerment and participation, transparency and openness.

As a part of instituting the Learning Organisation Strategy, the HRD Meet '97 was organised to share experiences, innovative practices, and systems experimented in a group of leading corporates. INDAL, HINDALCO, Bhilai Steel Plant and Visakhapatnam Steel Plant participated in the Meet. It also provided an opportunity of idea sharing among the eminent practising managers, academicians, trade unionists and students.

Training and development of its employees which includes skill improvement and attitudinal/ behavioural changes continues as a priority area. A well equipped "HRD Centre of Excellence" has since become operational at Company's Corporate Office at Bhubaneswar.

The manpower strength of your Company was as follows :

	As on 31.03.98	As on 31.03.97
Executives	1364	1278
Supervisors	853	901
Skilled/ Highly Skilled	2975	2928
Unskilled/ Semiskilled	1115	1125
	<b>6307</b>	<b>6232</b>

The Company continued to pursue efforts to improve the representation of scheduled caste and scheduled tribe communities in employment in line with the Presidential Directives. Out of the total strength of 6307 employees (including trainees), there were 1071 employees belonging to the scheduled castes, 1168 to the scheduled tribe and 475 to other backward castes representing 16.98%, 18.52% and 7.53% of the manpower strength respectively.

The overall industrial relations scenario of the Company remained by and large peaceful. In spite of complexities arising from the multiplicity of the unions, the Company has maintained steady operations. Merely 0.01% of the total man-hours were lost for reasons associated with industrial unrest. In the interest of stable and meaningful interface with the unions, the Company has accorded recognition to one union each at the Corporate Office, the Captive Power Plant and the Smelter Plant, Angul in accordance with the Rules framed by the Government of Orissa.

### Peripheral Development:

Your Company has been paying emphasis to peripheral development by playing active role in undertaking various measures like development of roads, colleges, schools, library, creation of community centre, renovation of village ponds & wells, development of agriculture pond etc. for people living around Damanjodi and Angul. While undertaking peripheral activities due attention is given to create avenues for employment for women through financial assistance. A sum of Rs.2.63 crore has been spent for these activities during 1997-98. Your Company has also taken up the reconstruction of a school building at a cost of Rs.16 lakhs in Gobarghata village of Balasore district which was devastated in a tornado during March,98.

### Parliamentary Committees Visit :

During the year your Company was honoured by the visit of Parliamentary Sub-Committee on Official Language in August, 97 and Parliamentary Committee on the Welfare of SC & ST in October '97.

### Corporate Excellence :

In its journey towards corporate excellence, your Company has achieved many awards and recognitions from various quarters during 1997-98 as detailed below:

- M&R Complex has bagged the Fuel Conservation Award in June, 97 instituted by Confederation of Indian Industry (CII), Eastern Region, in recognition of the efforts of the member organisations, who are making systematic and serious attempts for efficient utilisation and conservation of energy.
- National Research Development Corporation (NRDC) under the Ministry of Science & Technology, Govt. of India has conferred the "Independence Day Award-1997" on Shri M.M. Seth, DGM(R&D) & Dr. C.R. Mishra, Sr. Manager(R&D) of your Company. This is a national honour for the process invention done by the NALCO scientists, jointly with four others of the silicate and catalysis group, Central Salt & Marine Chemicals Research Institute, Bhavnagar (Gujrat), for manufacturing Detergent Grade Zeolite (Zeolite-A), using Sodium Aluminate Liquor of Alumina Refinery as the main raw material.

Shri M.M. Seth, DGM (R&D) and Dr. C.R. Mishra, Sr. Manager (R&D) have also been honoured with United Nations World Intellectual Property Organisation (WIPO)'s Gold Medals for the same.



## Directors' Report

NRDC has also conferred the prestigious National Award (Independence Day Award 1998) of Rs. 75,000/- on Dr. B.K. Satpathy, Sr. Manager (R&D), Shri S.K. Patnaik, Sr. Manager (Chem.) and Dr. S.C. Patnaik, Asst. Manager (Lab.), of NALCO for their meritorious invention 'Process for the preparation of alumina hydrate of superior purity & fineness and process for preparation of low soda, high alpha pure alumina'.

- Export Award of Chemicals & Allied Products Export Promotion Council (CAPEXIL) for the 10th year in succession.
- Prestigious FICCI (Federation of Indian Chamber of Commerce & Industry) award on "Environment Conservation and Pollution Control" for the year 1996-97.
- "Excellent Performing Public Sector Enterprise Award" for the year 1996-97 instituted by Indian Institute of Industrial Engineering (IIIE), Mumbai.
- "Environment Protection Award" instituted by Indian Institute of Ecology and Environment.
- "Best Occupational Health Service Award" was given to your Company's Damanjodi unit by State Safety award Committee of Govt. of Orissa.
- "Shri Sita Ram Rungta Memorial Social Awareness Award" instituted by Federation of Indian Mineral Industries to your Company's Bauxite Mines at Damanjodi.
- "Gem Granite Environment Award" for 1997-98 to your Company's Bauxite Mines at Damanjodi.

### Projects :

#### Expansion of Bauxite Mines & Alumina Refinery:

To maintain its leadership in the industry, your Company is currently implementing an ambitious expansion programme. The expansion of Bauxite Mines and Alumina Refinery at an estimated cost of Rs. 1664.62 Cr. is in full swing. As reported to you earlier M/s. EIL, an old associate of your Company has been appointed as the Principal Consultant for the Project. M/s. MECON has been appointed as the consultant for expansion of Steam Generation Plant, Railway facility, Township and Material Handling Facilities at your Company's Port facilities at Vizag Port.

The Basic Engineering package from Aluminium Pechiney, France for certain improvements has been received. The work of site grading, piling, construction water and construction power are almost over. The Detailed Engineering, Tendering and Ordering activities are in progress and are proceeding as per schedule.

Orders for some major items like the Primary Crusher and Apron Feeders for Mines and modification of existing Calciner and Evaporator for the Alumina Refinery have been placed. Some of the contracts for Civil & Structural work have also been awarded.

A sum of Rs. 229.94 crore has already been firmed up

and committed by way of orders placement/award of contracts as on 31.03.98. The progress of actual cumulative expenditure on this account is placed at Rs. 54.45 crore as on 31.03.98.

#### Expansion of Aluminium Smelter & CPP :

Your Directors are happy to inform that the proposal to expand the capacities of Aluminium Smelter from 2,30,000 TPY to 3,45,000 TPY and Captive Power Plant from 6x120 MW to 7x120 MW was approved by the Government on 3rd February, 98. This project, estimated to cost Rs. 2062 crore is scheduled for completion within 51 months from the date of approval. Your company aims to finance major portion of the project cost out of internal accruals and balance through market borrowing. M/s. Engineers India Ltd., who had been associated in implementation of the initial Project of the Smelter Plant, have been appointed as the principal detailed engineering consultant for the expansion of Smelter Project as well. M/s. Dastur & Co. were appointed as consultants for CPP.

The process of appointment of Consultants, for expansion of Township and Railway is under progress.

#### The Progress in various other Projects under implementation is as under:

##### (a) Strip Casting Facility :

The 26,000 TPY strip casting project has been reviewed and in view of the long term operability of the project at optimum capacity utilisation to meet the relevant market, certain additional facilities have been added. The facility has been commissioned at an estimated cost of Rs. 76.43 crore.

##### (b) Special Grade Alumina :

A 26,400 TPY special alumina plant at Damanjodi at a cost of Rs. 56.78 crore based on technical know-how obtained from Alumina Technology Associates, USA is expected to be commissioned during the 4th quarter of 1998.

##### (c) Zeolite :

A 10,000 TPY Detergent Grade Zeolite (Zeolite-A) Plant at Damanjodi at a cost of Rs. 24.10 crore with consultancy services rendered by Engineers India Ltd. is scheduled for completion during the 2nd quarter of 1999.

##### (d) Gallium :

A 950 kg/annum 5N Purity Gallium Extraction Plant at Damanjodi at a cost of Rs. 12.77 crore based on indigenous technology and financial assistance to the extent of Rs. 5.54 crore coming from associated Govt. of India agencies viz. DSIR, DST, DRDO & NRDC, is under implementation.

##### (e) Additional Facility in Billet Casting Unit :

Certain additional facilities in the Billet Casting unit are being added at an estimated cost of Rs. 9.52 crore. This will improve the quality of the Billets produced to meet

## Directors' Report

the exacting quality standards of international customers.

### (f) Joint Venture Proposal :

Your Company's proposal for equity participation in International Aluminium Products Ltd. (IAPL) jointly promoted by Mukund Ltd., FATA-Gem Ltd. and others has been approved by the Govt. for contribution of Rs. 30.82 Cr. towards 26% equity of IAPL. Out of this actual contribution made till August'98 is Rs. 15.92 crore in proportion to the progress of the project.

### (g) Aluminium Wheel Project :

Your Directors have approved the setting up of an Aluminium Wheel Project comprising a 10,000 TPY Wheel Ingot Line at Smelter, Angul and a 4,50,000 wheels per year Alloy Wheel Plant at Chandaka, Bhubaneswar at a total estimated cost of Rs. 92.56 crore. M/s. Mecon has been appointed as Engineering Consultant for the project. The finalisation of technology supplier is in an advanced stage. The project will be implemented within 27 months from date of appointment of the technology supplier.

### Corporate Planning :

Functional goals/strategies already defined in Corporate Plan (upto 2005) are being monitored and reviewed regularly. The progress on implementation of Corporate Plan is satisfactory. The updation work of the Corporate Plan with changing situations has already been taken up.

The expansion proposals have been cleared by Government of India and work on the same have started. The activities concerning production, marketing, finance, materials, HRD, etc. are decentralised with only functional control at Corporate level. The proposal for financial restructuring is already with the Govt. Business development activities are moving in the right direction with the start of work on Aluminium wheel project.

### Ancillary & Downstream Development :

During the year 1997-98, ancillary status was accorded to nine more SSI units at Rourkela, Rayagada, Angul and Bhubaneswar. At present, 37 SSI units are operating with ancillary status by NALCO.

### Computerisation :

The implementation of computerisation in Process Automation, Information Integration and Commercial applications involving an outlay of Rs.16.44 crore, as per the strategic plan, is in full swing.

The Wide Area Net Work facility has been extended to the project consultant M/s. Engineers India Limited by installing the VSAT at their engineering office, Gurgaon. This will expedite the project implementation activities.

Local Area Net Work in the Corporate Office at Bhubaneswar has been successfully installed. Re-engineering of Commercial applications in Client Server environment has been successfully completed.

Order has been placed for supply, installation and

commissioning of Truck Despatch System to monitor and optimise utilisation of loading and hauling equipments at Damanjodi unit.

In Alumina Refinery, Distributed Controlled System (DCS) is being implemented along with the expansion of Refinery as a part of project activity in place of Supervisory Controlled Data Acquisition System (SCADA), planned earlier.

The required hardware and networking resources have been installed for facilitating the electronic trading of your Company's shares in Depository system. Your Company's shares have been activated for dematerialisation w. e. f. 03.07.98.

### Quality Movement :

You will be pleased to know that the Refinery and Smelter Plants have been recertified to ISO 9002 during the year, with validity for the next three years. The Mines and Captive Power Plant would be due for re-certification during 1998-99.

In order to further strengthen quality improvement efforts, a core group of facilitators has been developed to guide and assist Quality improvement project activities using multi-functional teams as well as Quality Circles. Departmental Quality Councils have been extended to all areas, both in manufacturing and non-manufacturing functions with the objective of involving middle level and front line managers more effectively in planning and directing quality improvement activities.

As part of new quality initiatives, several multi-functional teams have been formed to analyse significant problems and suggest improvements in the systems and procedures for increased organisational efficiency and customer satisfaction. Data based analysis, use of Statistical techniques and systematic problem solving form the core of the approach of these teams.

Two Quality Circles, Alpha of Smelter Plant and Black Diamond of Alumina Refinery have successfully competed in the International Convention of Quality Circles organised at Secunderabad and bagged the "Best" in Session awards in their respective sessions.

Alive to its responsibilities towards quality improvement in general and proliferation of Quality Circle culture in the state of Orissa in particular, your company has successfully organised the All Orissa Quality Circle Competition for the second consecutive year.

### Efficiency Unit :

In line with the directives of Govt. of India regarding setting up of Efficiency Units in PSU's, your Company has established Efficiency Units in Smelter, CPP, Mines & Refinery. The Efficiency Units activities in the company are co-ordinated & monitored including periodical reporting to the Govt. by an Apex level committee at Corporate Office.

The Efficiency Units are designed to ensure efficient functioning of sub-units & departments, assess scope of work, optimisation of consumption parameters, inventory levels & overall costs and maximise revenue earning. Their activities also includes actions for improving internal

## Directors' Report

efficiency, people orientation, decision making process, company's image both internal & external, communication system for sharing information at different levels and to bring transparency, openness, simplification & external accountability.

### Environmental Management :

Your Company has established an outstanding record in Environmental management. Your Company has been able to maintain the discharge and emission norms of Orissa State Pollution Control Board for all the units. Consents have been obtained in time to operate Bauxite Mines, Alumina Refinery including its Township, Captive Power Plant and Smelter. Environment clearance from Ministry of Environment and Forests has been obtained for expansion projects for Bauxite Mines, Alumina Refinery, Smelter and Captive Power Plant. Your Company has also been able to obtain consents from Orissa State Pollution Control Board to establish Alkaline Water Neutralisation Plant at Damanjodi, Aluminium Wheel Plant at Chandaka Industrial Estate, Bhubaneswar, the Wheel Ingot line at Angul and the Special Grade Alumina Pilot Plant at Damanjodi.

A vegetation survey is being carried out at Alumina Refinery and the Biological monitoring for fluoride is being conducted at Smelter Plant by OUAT, Bhubaneswar.

The Company's afforestation programme has been quite successful with 47.08 lakh trees having been planted till 1997-98 including 3.31 lakh during the year.

A Rs. 1.80 crore treatment plant has been commissioned to improve the water quality of Ash water overflow at CPP, although the same remained well within prescribed norms. A scheme for re-circulation of the treated water is under implementation.

Panchpatmali Bauxite Mines and Alumina Refinery have already been certified to ISO 14001 during 1996-97. Ten surveillance audits for these two units were successfully completed during 1997-98.

After Bauxite Mines & Alumina Refinery, this year, the Captive Power Plant was certified to ISO-14001 by M/s RWTUV of Germany on 19th December, 97. The Smelter Plant has also been recommended for similar certification by M/s TUV(India) Pvt.Ltd., on 19th March, 98. Your Company has substantially gained by improved work conditions, better house keeping, better pollution control, compliance of statutory requirements, reduced raw material consumption and improved awareness on environment by way of implementation of environmental management system.

Your Company's efforts have been duly recognised by FICCI Award-1996-97 on Environmental Conservation & Pollution Control and the WEC-IIIEE-IAEWP Environment Award for contributing towards environment protection in and around NALCO.

### Energy :

Energy conservation has become a crucial issue in corporate sector. Cost of energy can be reduced by

adopting energy conservation measures which in turn can make critical difference in the cost of products.

Various energy conservation measures taken up by your Company have kept the specific energy consumption figures within the norm in most of the cases. During the year significant reductions were recorded in the consumption of coal and oil for steam generation in the Alumina Refinery and C.P. Coke in the Smelter.

In a bid to boost the energy conservation efforts, your company has engaged Tata Energy Research Institute (TERI) to conduct an energy audit of Smelter Plant. TERI has submitted the report which is being implemented in right earnest. Steps are under-way to engage a reputed consultant for Alumina Refinery Plant also.

### Rajbhasha :

The year 1997-98 witnessed a marked improvement in progressive use of Rajbhasha. Commemorating the Golden Jubilee year of Independence, a Hindi-Oriya Kavi Sammelan was organised at Bhubaneswar on 16.04.97.

As the office shifted to its own Corporate building NALCO BHAWAN during May, 97, special attention was given for implementation of official language, by preparing bilingual signboards and nameplates etc.

Hon'ble members of Parliamentary Committee on Official Language inspected and reviewed the progressive use of Rajbhasha in our Port facilities Office at Visakhapatnam on 17.07.97 and in Company's Corporate Office at Bhubaneswar on 23.08.97. The Committee expressed its satisfaction on the efforts made by NALCO.

'Hindi Pakhvada' was celebrated from 8th to 16th September '97 with many interesting programmes. Along with discussions on use of Hindi in day to day Official Work, a variety of competitions were organised among employees like Hindi Essay, Calligraphy, Jokes, Poems etc. A Special issue of Hindi magazine 'Akshar' was also published during Hindi Divas.

A Town Official Language Implementation Committee was constituted during Dec. '97 at Angul Sector with the efforts of NALCO.

Hindi monthly 'Parichaya' from Corporate Office, 'Bhavna' from S&P Complex, Angul and 'Teen Suman' from M&R Complex, Damanjodi were published regularly during the year.

### Vigilance :

To keep the environment within the organisation free from corruption, Vigilance Dept. organised Training Programmes on 'Vigilance Management' for Executives at various levels during the year.

Computer Application in vigilance management has been introduced to make vigilance more effective, accurate and informative to deal with the cases within a short period of time. The staff of Vigilance Deptt. are being trained to use and work effectively on the Computer.

## Directors' Report

### Sports :

Your Company continued to encourage excellence in the field of sports and help various agencies to organise State level and National level sports events.

Your Company bagged the Championship trophy at All India Football tournament held at Khurda and was runners up in All India Public Sector Football tournament held at Siliguri.

### MOU rating :

The Company's performance was rated 'Excellent' in the evaluation of the Memorandum of Understanding signed with the Government of India for the year 1996-97. As per the provisional assessment, the Company's performance in 1997-98 in terms of MOU has also been 'Excellent'.

### Statutory Disclosures :

Particulars of employees in receipt of remuneration in excess of the limits prescribed under the provisions of Section 217 (2A) of the Companies Act, 1956 and the rules framed thereunder, is attached at Annexure-I.

### Status of listing in Stock Exchanges :

Your Company's shares are listed in Bhubaneswar, Mumbai, Calcutta, Chennai and Delhi Stock Exchanges. The shares are also traded in National Stock Exchange and OTCEI. The listing fees for 1998-99 has been paid to all the listed Stock Exchanges.

### Foreign Exchange Earnings and outgo :

The Foreign Exchange earnings (on cash basis) during the year 1997-98 was Rs. 660.98 Crore as against Rs. 627.80 crore during the previous year.

The foreign exchange outgo (on cash basis) during the year was Rs. 142.74 Crore as against Rs. 175.29 crore during the previous year.

### Review of Accounts by C & AG :

The review of accounts prepared by C&AG for the year 1997-98 is annexed to this report.

### Auditors :

M/s. Brahmayya & Co., Chartered Accountants, Vijayawada have been re-appointed as Statutory Auditors of the Company for the year 1997-98 by the Company Law Board on the recommendation of Comptroller & Auditor General of India.

M/s. S S Associates, Cost Accountants, Bhubaneswar have been appointed as Cost Auditors of the Company for the year 1997-98 by the Company Law Board.

### Directors :

The five year tenure of Shri S N Johri, CMD expired on 17.06.97. The President of India has since extended his term till superannuation.

Shri G.S. Panda, Director (Production) has since been redesignated as Director (Projects & Technical) with effect from 24.08.98.

Shri S B Nayak has been appointed as an additional Director with effect from 28.10.97 on the terms & conditions prescribed by the President of India and was designated as Director (P&T). Shri Nayak was serving as ED (Technology) in your Company before taking up the responsibility as Director (P&T). Shri Nayak has since been redesignated as Director (Production) with effect from 24.08.98. Shri Nayak holds office upto the date of the Annual General Meeting. A notice has been received from a member, under Section 257 of the Companies Act, 1956 proposing the candidature of Shri Nayak for the office of a Director.

Dr. (Smt.) Aruna Bagchee, nominee of President of India was appointed as an additional Director with effect from 02.12.97 vice Shri S D Sharma. Dr. (Smt.) Aruna Bagchee holds office upto the date of the Annual General Meeting. A notice has been received from a member, under Section 257 of the Companies Act, 1956 proposing the candidature of Dr. (Smt.) Bagchee for the office of a Director.

Shri K N Misra has been appointed as an additional Director with effect from 15.01.98 on the terms & conditions prescribed by the President of India and was designated as Director (P&A). Shri Misra was serving as General Manager (HRD) in your Company before taking up the responsibility as Director (P&A). Shri Misra holds office upto the date of the Annual General Meeting. A notice has been received from a member, under Section 257 of the Companies Act, 1956 proposing the candidature of Shri Misra for the office of a Director.

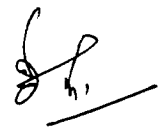
### Acknowledgement :

The Directors of your Company express their gratitude for the co-operation, guidance and support received from the different wings of Govt. of India in general and Ministry of Steel & Mines in particular, the Govt. of Orissa, SE Railway, Mahanadi Coal Fields Ltd., State Bank of India, GRIDCO and other organisations.

Your Directors would like to take this opportunity to express their gratitude to the customers for their unflinching faith and whole hearted support.

Your Directors are pleased to place on record their appreciation of the sincere and devoted services rendered by the employees at all levels in the Company.

For and on behalf of the  
Board of Directors



(S N Johri)  
Chairman-Cum-  
Managing Director

Place: Bhubaneswar  
Date: 29.08.1998

## Annexure - I

### INFORMATION AS PER SECTION 217(2A) OF THE COMPANIES ACT, 1956 FORMING PART OF DIRECTORS' REPORT FOR THE YEAR ENDED 31.03.1998.

Sl. No.	Name (S/Shri)	Designation of employee	Remuneration received (Rs.)	Qualification & experience (Years)	Date of Commencement of employment	Age as on 31.03.98	Last employment held before joining the Company
1	2	3	4	5	6	7	8
<b>Employed throughout the Financial Year and in receipt of remuneration of not less than Rs.3,00,000/- in the aggregate for the year.</b>							
1.	Abbasvali G.	CM(F)	3,54,957	B.Com., LL.B, C.A. (22 years)	15.09.82	48	Accounts Officer, M/s. ECIL, Hyderabad
2.	Acharya B.P.	Sr.Mgr(Civil)	3,43,020	B.Sc.Engg(Civil) (18 years)	11.11.82	40	Asst. Engr., I&P Deptt., Govt. of Orissa
3.	Acharya Dr.K.	MS	3,50,717	MBBS, MD(Pathology) (18 years)	19.09.83	43	Sr.Medical Officer, IMFA.
4.	Arora B.K.	DGM(M&I)	4,02,719	B.E(Elect.) (30 years)	16.04.81	52	Planning Engr., BALCO
5.	Badi N.V.	ED(CP&BD)	3,53,439	BA, BE(Mech.)(H), D.M.A., F.I.E., C. Engg., M.I.I.F., M.I.I.I.E (35 years)	07.01.82	56	Manager(Metals), MECL
6.	Balsubramanian R.	CM(F)	3,07,235	C.A, DRS (24 years)	12.02.97	50	Director (Finance) Jute Corp. of India Ltd., Calcutta.
7.	Banerjee S.K.	ED(P&T)	4,55,802	B.E(Civil) (33 years)	16.11.84	54	DCE(Civil), HFCL.
8.	Banerjee S.N.	CM(HRD)	3,90,035	B.Sc.Engg. (Mech.) (34 years)	26.03.85	54	Training Officer, FCI Limited, Talcher.
9.	Barik P.	DGM(Elect.)	4,08,873	B.Sc.Engg(Elect.), Diploma in Industrial Mgt. (26 years)	06.08.82	51	Dy. Manager, RSP, Rourkela
10.	Behera G.K.	DGM(EL)	3,81,472	B.Sc.Engg(Elect.) (28 years)	21.07.82	49	Dy. Project Engr., Engineering Projects India Limited.
11.	Bhanja D.B.	CM(HRD)	4,33,228	BA, PGD SS, PM & IR (23 years)	30.07.82	48	Personnel Officer, Hindustan Zinc Limited, Sangipalli.
12.	Bhatia V.	Sr.Mgr(C)	3,47,994	D'Man course in D'Manship, Dip.in Civil Engg. (38 years)	04.05.81	55	Divisional Engr., BALCO
13.	Bir P.K.	CM(Fin)	3,44,188	B.Com.(H), LL.B., C.A (20 years)	15.07.82	45	AM(Accounts), Orissa Sponge Iron Limited, Keonjhar.
14.	Bisen M.S.	GM(PF)	4,66,686	B.E.(Mech.) (33 years)	01.06.81	57	Supdt. Engr.(Mech.), BALCO.
15.	Biswal B.	DGM(Contract)	3,88,134	B.Sc.Engg. (Mech.) (28 years)	27.12.83	53	Asst. Chief Engr. FCI.
16.	Chakraborty A.	CM(M)	3,38,388	B.Tech. (Mining Engg.), 1st class MMS (20 years)	05.10.83	44	Asst. Mines Mgr.(Production), SAIL, Bokaro, Kiriuru Iron Ore Mines.
17.	Chand Goutam	CM(Elect.)	3,93,257	B.Sc.(Elect.Engg.) (21 years)	09.08.82	46	Sr. Engineer, KSB Pumps Limited,
18.	Chawala K.S.	CM(Civil)	3,97,359	B.E(Civil) (27 years)	03.08.81	50	Asst. Divn. Engr. (Civil), BALCO
19.	Choudhury Ashim	ED(Mktg.)	4,13,031	B.A, PGDM(XIM) (32 years)	01.10.84	53	Pilot, IMFA Limited.
20.	Choudhury P.R.	CM(Elect)	3,79,020	B.Sc.(Elect. Engg.) (22 years)	23.06.82	44	AM(Elect.), Alloy Steel Plant, SAIL, Durgapur.
21.	Choudhury D.K.	CM(Mech)	3,90,446	B.Sc(Mech.) (22 years)	18.12.82	47	Dy. Mech. Engr., Indian Cable Co. Ltd.
22.	Das S.N.	CM(S)	3,76,644	B.E(EI) (24 years)	29.05.82	48	Divn.Engr.(Elect.), Hindustan Steel Works Construction Limited, Bhilai.
23.	Das S.K.	Sr.Mgr(F)	3,21,343	B.Com., LL.B., A.C.A. (15 years)	25.01.83	40	—

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24.	Das S.K.	CM(C)	3,34,149	B.Sc.Engg (Civil)/ PGDES (18 years)	03.11.82	40	Asst.Engr(Civil), P&I Deptt. Govt. of Orissa (Works Deptt.)
25.	Das P.	GM (AR)	3,85,380	B.Tech.(Chem.) (27 years)	16.04.81	55	Planning Engr., BALCO
26.	Das P.K.	DGM(CH)	4,13,796	B.Sc.Engg.(Mech.) (27 years)	05.11.84	51	DM(O&M/ Trg.), NTPC, Farakka.
27.	Das B.K.	CM(HRD)	3,21,103	MA, LSW, LL.B. (22 years)	04.06.82	47	Personnel Officer, Bisra Stone Lime Company Limited.
28.	Das R.C.	CM(EL)	3,84,653	B.Sc.(Elect. Engg.) DM (23 years)	07.07.82	45	Asst..Mgr(Elect.), Bokaro Steel Plant.
29.	Das S.C.	DGM(Fin)	4,14,163	B.Com.; C.A. (24 years)	05.03.83	46	Accounts Officer, Gr.I, FCI, Talcher.
30.	Das Ansuman	CM(Mktg.)	3,74,291	B.Sc.Engg. (Mech.), MBA (21 years)	24.11.82	42	Dy. Manager, HAL, Sunabeda.
31.	De P. K.	DGM(Mat.)	4,58,742	B.E(Chem.) (22 years)	04.06.84	46	Matls. Officer, HFCL.
32.	Dei Dr.(Mrs)S.	Dy.Med.Supt.	3,33,291	MBBS, MD(O&G) (27 years)	13.08.91	55	Specialist (O&G), H& FW Deptt., Govt. of Orissa
33.	Dewangan M.L.	CM(Mech.)	3,65,599	B.E(Mech.) (25 years)	29.11.84	48	Project Engr(Mech.) FCI, Talcher
34.	Gambhir P.S.	DGM(SCF)	3,85,548	B.E(Mech.)(Hons.) (27 years)	01.12.82	51	Engr.(Mech.), BALCO.
35.	Gantayat M.M.	CM(Mech.)	3,42,087	B.Sc.Engg.(Mech.) (21 years)	17.06.83	46	Asst. Engineer, IRE Limited, Chatrapur.
36.	Gupta Kailash	DGM(HRD)	3,92,470	B.A(Hons.), LL.B., PG(Hons.) Dip.in IR&W. (23 years)	03.06.82	45	Dy.Manager(Pers.), ITDC, New Delhi.
37.	Hansda S.K.	Sr.Mgr(Mech)	3,36,191	Dip. in Mech. & Elect. Engg. (BOAT) (25 years)	19.04.84	50	Service Engr., BEML, Calcutta.
38.	Iyer K.S.	DGM(F)	5,20,290	B.Sc.,ICWA (35 years)	12.10.81	56	Accounts Officer, BALCO, Korba.
39.	Jain N.K.	GM(P&TS)	4,30,081	B.Sc.,B.E(Mech.) (31 years)	28.12.81	50	DMM, FCI, Talcher.
40.	Jena S.N.	CM(S)	4,25,961	B.Sc.Engg.(Metal.) (21 years)	18.03.85	47	Asst. Manager, SAIL, Bokaro Steel Plant.
41.	Jena R.N.	CM(S)	3,59,465	B.Sc.Engg.(Mech.) (22 years)	14.01.83	48	Asst. Engr., TISCO, Jamshedpur.
42.	Johri S.N.	CMD	5,80,939	M.Sc.(Math.), M.Sc.(Stat.), LL.B., FCS (33 years)	04.06.84	56	GM(Pers.) & Secretary, KIOCL.
43.	Joshi Ravi	Sr.Mgr(Admn.)	3,07,912	B.Com., Certificate in Mgt. (16 years)	13.11.81	41	—
44.	Joshi A.K.	CM(C&I)	3,51,118	B.E(Eltxn. & Commn. Engg.) (22 years)	21.12.84	45	Proj. Engr. (Instr.), FCI, Talcher.
45.	Kashyap K.K.	CM(Civil)	3,43,657	B.Sc.Engg.(Civil), PGDBA (24 years)	30.03.84	46	Asst. Divn. Engr., HSCL, Visakhapatnam.
46.	Khatril L.C.	DGM(Traffic)	3,68,033	Dip. in Civil Engg., AMIE (35 years)	03.08.81	54	Zonal Engr(Civil), BALCO.
47.	Khemani P.R.	GM(F)	5,27,151	M.Com, AMICWA, Dip. in Mgt. (33 years)	01.02.82	55	Finance Manager, Bharat Cooking Coal Limited.
48.	Kumar N. P.	CM(HRD)	3,40,757	M.A in IR & LW (22 years)	29.05.82	47	Personnel & Admn. Officer, Indian Oil Corporation Ltd, New Delhi.
49.	Kumar A.	GM(Matls.)	3,83,317	M.Com. (29 years)	29.05.82	55	Dy.Controller (Stores ), KIOCL.
50.	Lenka A.K.	CM(TBO&M)	3,90,709	B.Sc.Engg.(Elect.) (23 years)	22.11.84	49	Resident Engineer, Genelac Limited, Calcutta.
51.	Maheswari R.K.	GM(Wheel Proj.)	4,03,064	B.E(Mech.) (30 years)	15.03.82	50	Consulting Engr., Tarun Engineers, Gwalior.
52.	Mallick K.K.	GM(DOM.)	4,33,402	B.E(Mech.) (25 years)	01.09.82	48	DM(Matls.), NTPC.

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53.	Manjit D.	CM (Elect)	3,09,128	B.Sc.Engg.(Elect.), (19 years)	18.11.82	41	JM(Elect.), SAIL, Durgapur.
54.	Mishra C.R.	Sr.Mgr(R&D)	4,13,855	M.Sc. Ph.D. in Chem., Fellow of the Inst. of Chemist (India) (19 years)	08.04.83	48	Lecturer of Chemistry , Rourkela Edu. Dev. Society.
55.	Mishra K.B.	CM(System)	3,72,952	M.Sc.(Statistics) (33 years)	16.04.81	57	Geostatician, BALCO.
56.	Mishra S.K.	Mgr(HRD)	3,19,939	M.A., LSW,LL.B (15 years)	10.01.83	37	Asst. Administrative Officer, Eastend Engineers (P)Ltd., Bhubaneswar.
57.	Mishra R.K.	Sr.Mgr(HRD)	3,43,481	B.Sc.,LL.B., DSW (18 years)	07.01.83	38	AM(P&A), IDCO.
58.	Mishra Manoj	Mgr(HRD)	3,13,258	B.Sc(Hons.), M.A(LSW), MBA, PGDM(XIM) (15 years)	19.01.83	39	—
59.	Mishra M.	CM(M&I)	3,82,044	B.Sc.Engg.(Mech.), DM. (25 years)	26.09.84	47	Divisional Engr., HSC.
60.	Mishra L.	Sr.Mgr(Elect.)	3,82,261	B.Sc.Engg.(Elect.) (25 years)	29.07.82	49	Asst.Mgr (Electrical Maintenance), Indian Iron & Steel Co., Bumpur.
61.	Mishra M.K.	CM(Civil)	3,48,299	B.Sc.Engg(Civil) (22 years)	30.04.84	46	Asst.Divn.Engr.(C), HSC.
62.	Mishra A.K.	CM(Mech.)	3,63,254	B.Sc.Engg.(Mech.) (25 years)	31.12.82	48	Prodn. Engr., Kalinga Tubes Divn., Choudwar.
63.	Mishra B.	DGM(S)	3,65,751	B.Sc.Engg(Civil) (30 years)	03.10.83	55	Asst.Chief Engr. FCI, Talcher.
64.	Mohanty P.K.	DGM(Proj.)	3,87,613	B.Sc.Engg(Mech.) (25 years)	27.06.83	48	Proj.Engr(Mech.), FCI, Talcher.
65.	Mohanty B.N.	DGM(O)	3,86,938	B.Sc.Engg(Chem.) (22 years)	21.11.84	44	Asst. Plant Mgr., FCI, Talcher.
66.	Mohanty P.K.	Sr.Mgr(Admn.)	3,14,041	MA, DSW, DM. (17 years)	22.11.82	39	Mgr. (Admn.), Samantary Industries (P) Ltd., Cuttack.
67.	Mohanty K.K.	Sr.Mgr.(M)	3,00,320	B.Sc.Engg(Mech.) (20 years)	10.11.82	49	Asst.Engr.(Mech.), Govt. of Orissa
68.	Mohanty Dr.R.C.	ED(SH&E)	4,70,325	M.Sc.(Geology), Ph.D (32 years)	30.11.81	54	Sr. Design Engr., MECON.
69.	Mohanty M.K. IPS	D(Vig.)CVO	3,06,234	I.P.S	31.01.97	48	On deputation from Government of India
70.	Mohapatra G.S.	Sr.Mgr (Traffic)	3,89,250	BA, LL.B., DSW (24 years)	31.07.82	44	Liasion Co-ordinator RSP, Rourkela. (SAIL)
71.	Mohapatra M.K.	CM(C)	3,55,583	B.Sc.Engg. (Civil), DIES (20 years)	18.11.82	43	Asst. Engineer, Govt. of Orissa
72.	Mohapatra S.S.	SM(Vig.)	3,70,654	B.Sc.Engg.(Mech.) (19 years)	20.10.82	43	Asst. Engineer, Pressels Pvt. Ltd., Cuttack.
73.	Mohapatra P.K.	DGM(Mat.)	3,92,606	B.Sc.Engg.(Mech.) (21 years)	24.04.82	45	Stores & Purchase Officer(Programming), ONGC, Calcutta.
74.	Mohapatra A.	DGM(HRD)	3,80,205	MA(LSW), LL.B (23 years)	25.05.82	47	Labour Officer, OTM, Choudwar.
75.	Mohapatra B.K.	DGM(E&MS)	3,85,702	B.Sc.Engg.(Mech.) (28 years)	01.06.83	53	Asst. Supdt., INDAL Co. Ltd.
76.	Mohapatra S.C.	DGM(Servs.)	3,57,651	B.Sc., B.Sc. Engg.(Mech.) (30 years)	26.10.84	55	Asst. Supdt., FCI, Talcher.
77.	Moharana B.K.	DGM(E&MS)	3,94,496	B.Sc.Engg(Hons.) Mech. Engg. (28 years)	26.10.84	51	Asst. Chief Engr. FCI Talcher.
78.	Mummiguti P.P.	CM(EL)	3,82,150	B.E(Electrical) (23 years)	28.05.82	47	Asst. Manager, Alloy Steel Plant, SAIL.
79.	Murthy G.S.N.	CM(Mech.)	3,59,657	LME, B.E(Mech.) (28 years)	18.10.82	51	Engineer, KIOCL.
80.	Murty C.M.D.	DGM(M)	3,61,799	B.Tech(Mining), 1st Class MMCC (23 years)	11.03.82	46	Asst. Mines Mgr., M/s. Chowgle & Co. Ltd., Goa.
81.	Nag S.P.	CM(Elect.)	3,34,919	B.E(Electrical) (25 years)	09.06.84	51	Asst.Engr(Elect.), MAMCL, Durgapur.

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82.	Nagaiah N.	CM(Mat.)	4,57,954	B.Com, MA., LLB (23 years)	09.05.84	54	Asst. Stores Officer, Coromandal Fertilizers Ltd. Chilampur.
83.	Nair M.K.B.	DGM(R&D)	3,92,708	B.E.(Met.) (22 years)	12.03.82	49	Engineer, BALCO, Korba.
84.	Nanda S.	RM (Chennai)	3,91,662	BA(Hons.), BMP (25 years)	14.05.82	46	Dy. Admn. Manager, HAL, Nasik.
85.	Nanda S.K.	CM(Fin.)	5,37,375	BA, ICWA (23 years)	08.10.82	47	Cost Accounts Officer, OMC Ltd., Bhubaneswar.
86.	Nanda S.P.	SM(Elect.)	3,35,599	M.Tech.(Elect.) (17 years)	30.09.83	41	Proj. Engineer, Grindwell Norton Ltd., Bangalore.
87.	Nayak S.B.	D(P&T)	4,23,781	B.Sc.Engg.(Elect.) (29 years)	04.05.82	53	Dy. Mgr., Bokaro Steel Plant.
88.	Nayak M.	CM(Civil)	3,40,412	B.E(Civil) (27 years)	06.05.81	52	Asst.Divn. Engr(Civil), BALCO
89.	Padhiari H.K.	DGM(F)	3,68,842	B.Sc., ICWA (25 years)	11.10.82	52	Accounts Officer (Costing), Utkal Machinery Limited, Kansbahal.
90.	Padhy P.K.	DGM(Mktg.)	4,01,490	M.Tech. (IE & OR), MBA (22 years)	29.06.83	46	Dy. Mgr.(IE), HAL, Sunabeda.
91.	Padmapati R.K.	CM(Mech.)	3,32,684	B.E(Mech.) (23 years)	26.12.84	46	Senior Power Plant Engineer, Bongaigaon Refinery & Petro Chemicals Ltd., Bongaigaon.
92.	Pahwa S.N.	DGM(CA)	4,24,830	B.E(Mech.) (32 years)	12.01.85	55	Proj. Engr.(Mech.), Dubai Aluminium Co., Dubai.
93.	Panda B.S.P.	DGM(Civil)	3,96,591	AMIE, (Civil Engg.) (33 years)	22.10.84	56	Zonal Engr(Civil), BSP, Bokaro
94.	Panda B.K.	CM(Mech.)	3,45,752	B.Sc.Engg.(Mech.) (26 years)	16.04.81	47	Industrial Engineer, BALCO
95.	Panda M.C.	DGM(C)	3,74,570	B.Sc.Engg(Civil) (29 years)	12.10.84	56	Zonal Engineer, HSCL, Bokaro Steel City.
96.	Pandey S. K.	DGM(Proj.)	3,68,980	B.Sc.Engg(Mech.) (29 years)	31.12.84	51	Asst. Chief Engr. (Mech.), FCI, Sindhri.
97.	Pani B.K.	CM(Mat.)	3,37,771	BA(Hons.), LL.B, Dip. in IP&MM (29 years)	10.12.84	51	Sr. Asst. Manager (Materials), IDL Chemical Ltd., Rourkela.
98.	Pani B.S.	DGM(Tech.)	4,21,998	B.E.(Metallurgy), MBA (26 years)	22.03.82	48	Engineer(APP), BALCO, Korba.
99.	Panigrahi P.C.	CM(HRD)	3,58,244	MA(LSW), LL.B (17 years)	31.07.82	42	Labour Officer, Kalinga Spinning Mills Ltd.
100.	Parida P.K.	DGM(F)	3,94,014	B.Sc., ICWA (23 years)	08.10.82	46	Dy. Controller of Costs, Hira Cable Works, Hirakud.
101.	Parija M.S.	ED(S&P)	4,06,489	B.Sc(Hons.) B.Sc.Engg(Civil) (33 years)	15.10.84	56	Engg. Supdt.(Civil), Hira Cement Works, Sambalpur.
102.	Pati R. C.	DGM(E&MS)	3,69,307	B.Sc.Engg(Mech.), DISM (26 years)	23.05.83	50	Exe. Engineer, Bharat Cooking Coal Limited.
103.	Patnaik S. C.	DGM(Proj.)	3,91,592	B.Sc.(Elect. Engg.) (25 years)	26.05.82	51	Dy.Mgr.(Elect.), Bokaro Steel Plant, Bokaro.
104.	Patnaik A. K.	CM(Mech.)	3,50,549	B.Sc.Engg(Mech.) (23 years)	05.01.85	49	Mechanical Engr., FACOR, Bhadrak.
105.	Patnaik L.M.	CM(EL)	3,15,669	B.Sc.Engg(Elect.) (20 years)	01.12.82	43	Jr. Mgr(Elect.), SAIL, Bolani Ore Mines.
106.	Patnaik A.K.	Sr. Mgr.(Mech)	3,47,574	B.Sc.Engg(Mech.) (17 years)	13.04.84	37	General Foreman, IMFA, Therubali.
107.	Patnaik S.B.	GM(Mines)	3,77,919	B.Sc.Engg(Mech.) (30 years)	10.12.82	51	Prod. Engineer, TISCO.
108.	Patra S.	DGM(IA)	3,85,416	M.Com., LL.B., ICWA (25 years)	21.12.84	52	Secy-cum-CAO, Orissa State Seeds Corporation Ltd.



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109.	Patra A.K.	Sr.Mgr(Mat.)	3,16,040	B.Com., MBA, PGDMM (17 years)	08.09.82	39	Administrative Asst., TISCO.
110.	Patra C.L.	Sr.Mgr(HRD)	3,14,217	B.Sc.(Hons.), MA(LSW) (18 years)	12.11.82	43	Personnel Officer, DENA Bank.
111.	Patro S.K.	RM (Cal.)	3,99,635	M.Sc(Mines), 1st Class MMCC.	16.04.81	49	Mining Engineer, BALCO.
112.	Pattnaik P.K.	CM(Mech.)	4,60,944	B.Sc.Engg(Mech.) (22 years)	07.12.84	45	Exe.Engr.(Mech.) NMDC, Hyderabad.
113.	Pattnaik A.K.	CM(Elect.)	3,37,742	B.E(Elect.), PGD in Nuclear Sc. & Engineering (21 years)	08.07.82	45	In-charge Elect. Section of Platorium Plant, Bhaba Atomic Research Centre, Mumbai.
114.	Pattnaik Sudhakar	GM(L&C)	3,76,959	BA, LL.B (22 years)	17.06.82	52	Dy. Admn. Manager(Legal), HAL, Sunabeda.
115.	Pattnaik A.K.	CM(Mech.)	3,75,710	B.Sc.Engg(Mech.) (23 years)	05.01.85	39	Mech. Engineer, FACOR.
116.	Pattnaik S.S.	DGM(HRD&A)	3,87,942	MA(LSW), LL.B (21 years)	27.05.82	49	Welfare Officer, INDAL Co. Ltd., Hirakud.
117.	Pattnaik S.P.	CM(Mech.)	4,03,051	B.Sc.Engg(Mech.), M.Tech. (IE & OP Research) (20 years)	06.12.82	44	Asst. Engineer, HAL, Sunabeda.
118.	Paul N. K.	DGM(C&I)	3,52,478	B.Tech(Hons.) (I&E) (26 years)	12.02.85	51	Dy. Manager, SAIL, Bokaro.
119.	Prabhakar M.R.	CM(Proj.)	3,49,250	B.Sc.Engg(Mech.) (21 years)	05.11.84	45	Divisional Engr., KIOCL, Mangalore.
120.	Pradhan C.R.	GM(Expn.Proj.)	3,82,109	B.Sc.Engg(Elect.) (25 years)	17.05.82	48	Dy. Manager(Elect), Bokaro Steel Plant, Bokaro.
121.	Pradhan H.C.	CM(PR)	3,49,712	MA(Economics), PGD in Journalism (19 years)	11.01.85	44	Sr. Sub-Editor, Financial Express of Indian Express, New Delhi.
122.	Ram Kishan	DGM(Vig.)	3,80,720	BA, MSW, LL.B., PGDMM (21 years)	17.06.82	51	Personnel-cum Admn. Officer, Cement Corporation of India Limited.
123.	Ramana L.V.	DGM(Mech.)	4,10,091	B.Sc.Engg.(Mech.) (25 years)	09.06.81	52	Divnl. Engr(Mech.), BALCO
124.	Rao T.P.C.	GM(F)	4,09,940	B.Com., AICWA (35 years)	02.11.81	57	DM(Finance), NHPC., Loktak, Manipur.
125.	Rao S.V.	CM(F)	4,16,843	M.Com., CA (20 years)	02.08.82	50	Accounts Officer, Rashtriya Chemicals & Fertilizers Ltd.
126.	Rao J.M.	CM(EL)	3,18,330	B.Tech.(Elect.) (23 years)	09.12.83	46	Engineer, BHEL.
127.	Rao N.V.T.	Sr.Mgr(F)	3,24,285	B.Com., SAS (36 years)	07.11.83	57	Accounts Officer, AG, Orissa.
128.	Rao C. Koteswara	DGM(F)	4,25,078	B.Com., CA (21 years)	18.06.81	46	Accounts Officer, Cement Corporation of India, Akaltara, MP.
129.	Rath A.	GM(HRD&A)	3,99,138	B.Sc.Engg.(Mech.) (28 years)	20.06.83	52	Plant Engineer (Mech.), RCF, Thal Fertilizers Planning & Development Division.
130.	Rath S.C.	CM(F)	4,61,557	B.A(Hons.), CA, LL.B (19 years)	22.10.83	45	Asst. Administrative Officer, LIC of India, Cuttack.
131.	Ravindranath K.	CM(F)	3,61,842	B. Tech.(Power), B.E(Elect.),MBA (23 years)	04.08.82	48	Asst.Plant Engr.(Elect.), HindustanFertilizers Corporation Ltd., Haladia(WB).
132.	Ray D.S.	CM(HRD)	3,34,753	B.Sc.Engg.(Mech.) M.Tech(IM),MBA (20 years)	05.09.83	43	Industrial Engineer, BSP, Bokaro.
133.	Ray P.C.	CM(Mat.)	3,43,945	B.Sc. Engg (Hons). (Mech.) (21 years)	16.03.84	45	Engineer, HAL, Koraput.
134.	Ray A.	GM(CPP)	3,81,834	B.E.(Elect.) (25 years)	12.04.82	50	Sr. Engineer, NTPC, New Delhi.

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135.	Routray P.K.	GM(Proj.)	3,95,865	B.Sc. (Elect.Engg.) Graduateship in IE, Dip. in Mgmt. (26 years)	11.05.82	48	Dy. Manager, Bokaro Steel Plant, Bokaro.
136.	Routray B.N.	CM(Admn)	3,40,929	B.Sc. (26 years)	05.04.82	46	Sales Executive, Indian Drugs & Pharmaceuticals Ltd.
137.	Roy B.	DGM(Constn.)	3,79,808	B.E(Civil) (29 years)	06.06.81	52	Divn.Engr.(Civil), BALCO
138.	Sahni V.K.	CM(Mktg.)	3,42,863	BA, Dip. in Co. Law, Diploma in Elements of Mktg., Cft. in Export Mktg. (38 years)	16.04.81	57	Executive Asst., BALCO
139.	Sahoo R.P.	Mgr.(RB)	3,27,597	MA, M. Ed. (11 years)	14.07.86	50	Hindi Teacher, Government of Orissa
140.	Sahoo Shanti Lata	CM(HRD)	3,30,260	MA(LSW), LL.B (17 years)	05.07.82	39	Asst. Labour Officer, Govt. of Orissa.
141.	Sahoo P.L.	ED(F)	4,26,272	M.Com, LL.B, ACA (30 years)	15.02.82	57	Financial Controller cum COA, Konark Jute Limited, Bhubaneswar.
142.	Sahoo S.C.	CM(Elect.)	3,71,058	B.Sc.(Elect. Engg.) (23 years)	11.06.82	48	Asst.Engr.(Design), Govt. of Orissa, I&P Department.
143.	Sahu B.	CM(Elect.)	3,83,756	M.Tech.(Electrical) (15 years)	09.04.84	50	Asst. Mgr.(Elect.), Bokaro Steel Plant. (SAIL)
144.	Sahu D.C	CM(F)	4,57,917	B.Sc, ICWA, LL.B (21 years)	14.08.82	46	Jr. Manager (Budget), Bokaro Steel Plant (SAIL)
145.	Sahu R.K.	Sr.Mgr(Mat.)	3,17,129	B.Sc, LL.B., GDMM (19 years)	27.07.82	43	Godown Keeper, FCI, Talcher.
146.	Sahu A.K.	Sr.Mgr(HRD)	3,36,150	MA(LSW), LL.B (18 years)	30.07.82	42	Labour Welfare Officer, Orissa Industries Limited.
147.	Samal K.C.	CM(Fin.)	3,68,491	B.Com., ICWA (15 years)	01.01.83	39	—
148.	Sapra Ashok	DGM(Maint.)	4,06,286	B.Sc.(Elect. Engg.), DM. (23 years)	04.06.82	47	Electrical Engr., Shriram Fertilizers & Chemicals, Kota.
149.	Satapathy D.	DGM(A&CC)	4,41,283	MA, DSW (25 years)	02.08.82	48	Assistant Manager Personnel, Rourkela Steel Plant, Rourkela(SAIL).
150.	Satapathy P.K.	CM(Mat.)	3,16,655	M.Tech.(Ag. Engg.) (18 years)	21.07.82	43	Dy.Engr.(Purchase) NDDB, Anand.
151.	Seth M. M.	DGM(R&D)	4,03,072	B.E(Metallurgy) (31 years)	12.03.82	56	Asst. Supdt., BALCO, Korba.
152.	Sethi P.C.	SM (HRD)	3,09,318	MA(LSW) (17 years)	06.07.82	43	Asst. Labour Officer, Govt. of Orissa.
153.	Sharma A.K.	DGM(Mech.)	4,24,155	B.E(Mech.) (23 years)	01.12.82	46	Engineer(Mech.), BALCO, Korba.
154.	Sharma GMP	CM(Mech.)	3,68,966	B.Sc.Engg.(Mech.) (21 years)	16.11.82	46	Asst. Engr.(Gr.I), Tata Robins Frasers Ltd., Jamshedpur.
155.	Singh B.P.	CM(Elect.)	3,61,408	B.Sc.Engg.(Elect.) (24 years)	30.06.83	47	Electrical Engineer, Hindustan Zinc Ltd.
156.	Singh A.P.	CM(Mech.)	3,96,996	B.Sc.Engg.(Mech.) (31 years)	29.10.84	54	Dy. Manager, Durgapur Steel Plant.
157.	Singh D.K.	GM(O&M)	3,95,245	B.Sc.Engg.(Elect.) PGDBM (30 years)	17.11.82	53	Asst. Supdt., BALCO, Korba.
158.	Singh R.	CM(Mat.)	3,76,167	B.Sc.(Elect. Engg.), PGDMM (28 years)	15.02.82	51	Purchase Engineer, Bihar Alloy Steels Ltd., Calcutta.
159.	Singh Virendra	RM(Mumbai)	4,40,633	B.Sc.(Mining Engg.) (25 years)	25.09.82	49	Asst. Mines Mgr. M/s. VM Salgaoncar & Brothers (P) Ltd., Goa.
160.	Singh A.P.	DGM(Civil)	3,98,147	B.Sc.Engg(Civil) (28 years)	24.08.84	51	Sr. Proj. Engineer, Narmada Dam Project
161.	Singhdeo B.S.	GM(Mats.)	4,63,603	M.Sc, LL.B., MBA (24 years)	12.04.82	50	Dy.Mgr.(Mats.), IDL Chemicals Ltd., Rourkela.

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162.	Sivashanmugam T.K.	CM(Civil)	3,68,828	B.E(Civil) (21 years)	11.06.84	46	Jr. Project Engineer, Engineers Projects (India) Limited, Calcutta.
163.	Sreedhar K.S.	DGM(System)	3,91,725	B.Sc(Geology), M.Sc.,M.Tech. (Hydro Geology) (22 years)	16.04.81	45	Geologist, BALCO.
164.	Srivastav R.P.	CM(Mech.)	3,97,013	B.Sc.Engg.(Mech.) (25 years)	21.11.84	48	DE(Mech.), HSCL, Bokaro Steel City.
165.	Sudhakar P.S.	Sr.Mgr(Mktg.)	3,39,431	B.Sc., LL.B., GDMM, PG Dip. (Mktg. & Sales) (22 years)	14.08.82	44	Stores Officer, Tamil Nadu Alloy Foundry Co. Ltd.
166.	Sundaray N.	CM(Mktg.)	4,18,155	B.Sc.Engg.(Elect.) (21 years)	08.10.84	42	Jr. Manager, SAIL, Bokaro.
167.	Sundaraya M.R.	CM(Mech.)	3,36,315	B.Sc.Engg.(Mech.) (18 years)	11.12.82	42	Jr. Manager(Mech.) Bokaro Steel Plant.
168.	Suryanarayana K.V	M(F)	3,84,330	B.Com., SAS (35 years)	07.03.84	54	Asst. Audit Officer, AG, Orissa.
169.	Swain B.N.	DGM(HRD)	3,96,704	B.Sc., LL.B., PGD(PM&IR) (23 years)	08.06.82	45	Asst. Personnel Officer, Utkal Machinery Limited, Kensbahal.
170.	Swain U.C.	Sr.Mgr.(M)	3,10,660	B.Sc.Engg.(Mech.) (17 years)	28.03.84	39	Asst. Engr.(Mech.), IDC of Orissa Ltd.
171.	Swain R.P.	DGM(HRD)	3,75,525	BA, PG Dip. in Social Sc., PM & IR. (22 years)	09.06.82	46	Personnel/Welfare Officer, Western Coalfields Limited.
172.	Tamotia V. K.	DGM(E&MS)	3,77,944	B.E(Hons.)(Mech.) (30 years)	24.11.84	55	Zonal Engr(Mech.), HSCL, Durgapur.
173.	Thakur C.M.	CM(MIS)	3,94,867	B.E(Mech.Engg.) (28 years)	04.12.82	52	Asst. Supdt.(Mech. Maintenance), BALCO, Korba.
174.	Tripathy P.K.	Sr.Mgr.(Admn.)	3,40,049	B.Sc., LL.B., Dip. in Export Mktg. (20 years)	07.08.82	43	Inspector, Central Excise & Custom Department.
175.	Tupkari R.T.	Sr.Mgr(ARC)	3,26,847	B. Arch. (28 years)	01.09.81	52	Sr. Draftsman, BALCO.
176.	Vasudeva S.K.	DGM(Mat.)	4,12,339	B.Sc.Engg.(Chem.) (26 years)	09.06.83	50	Materials Officer, FCI, Sindi.
177.	Venkatpathi Dr. M	DGM(S&T)	4,42,247	M.Sc.(Geology), Ph.D. (26 years)	16.04.81	51	Geologist, BALCO.
178.	Vidyasagar P.	GM(R&D)	4,46,107	M.Tech. (32 years)	06.04.82	56	Supdt.(Tech.), BALCO, Korba.
<b>Employed for part of the Financial Year and in receipt of remuneration of not less than Rs.25,000/- per month.</b>							
179.	Agarwal C.B.	DGM(TS)	3,88,996	B.E.(Mech.) (30 years)	16.04.81	51	Planning Engineer, BALCO
180.	Arora V.K.	RM(N.D.)	3,59,853	BA, DBM (39 years)	17.05.82	56	Dy. Manager, NTPC, New Delhi.
181.	Dutta P.K.	Mgr.(Civil)	2,40,626	Matric, Licentiate Civil Engineering (37 years)	01.09.81	58	Sr. Estimator, BALCO.
182.	Pahadi B.	ED(Mat.)	5,61,739	B.Sc., B.Tech. (Hons.) (Mech. Engg.) (31 years)	30.12.81	58	Dy. Matls. Mgr., FCI, Talcher.
183.	Rao R.B.	D(F)	4,92,673	B.Com., ICWA (39 years)	30.04.82	58	Financial Controller, HAL, Sunabeda.

### Notes :

- Salary includes Basic Pay, D.A. Incentives, Leave Encashment, arrears salary and other benefits paid through salary.
- All appointments are on regular basis.
- Terms and conditions are as per Rules of the Company.
- Chairman-cum-Managing Director and Functional Directors are appointed by the President of India and are on tenure contract.
- None of the above employees is related to any of the Directors of the Company.

## Annexure – II

### STATEMENT OF PARTICULARS UNDER THE COMPANIES (DISCLOSURE OF PARTICULARS IN THE REPORT OF BOARD OF DIRECTORS) RULES, 1988.

#### A. CONSERVATION OF ENERGY:

NALCO has adopted modern technologies in all production units leading to optimal consumption of energy. In addition to that, best efforts are being made to conserve energy to the maximum extent by constant monitoring of specific energy consumption figures, adopting energy conservation measures, getting energy audit done by reputed external professional agencies, encouraging implementation of innovative ideas in this field, using renewable energy and adopting other useful measures in this direction.

Major highlights of energy conservation measures taken by the company are as follows:

##### a) Energy Conservation Measures Taken:

###### (i) Mines & Refinery:

- In Calciners pressure switches used for control of HFO flow have been replaced with pressure transmitters and control loop has been modified. Also a continuous oil pressure indicator has been provided in control room so that HFO flow can be controlled at optimum level. This has helped to increase the Calciner plant capacity utilisation.
- Installation, testing and commissioning of 100 MVA, 220/132/33 KV Auto transformer at Jaynagar Grid Substation which was procured by NALCO and tested and commissioned jointly with GRIDCO. This has resulted in a stable power supply thereby reducing plant down time and production losses.
- Installation, testing and commissioning of variable speed A.C drives for 5 nos. of 10 KW Desilication Slurry Pumps in 03 Area has been completed resulting in achieving speed control of the motor from 50 to 100% by VVVF (Variable Voltage Variable Frequency) panel.
- Installation of switching ON/OFF arrangement at the control desk by providing additional power contractors in M.C.C. for 2nd phase area lighting at 04 Area has been made for ease of operation.
- Installation of solar water heating system at NALCO Hospital.
- Replacement of conventional limit switches in Kelly Filters by non-contact magnetic type limit switches thereby reducing break downs.
- Lowest coal mill running time has been achieved this year in steam and Power Plant with maximum power generation so far.
- Load Shedding Scheme (LSS) put to practice most successfully during the year.

###### (ii) Smelter Plant:

- Installation and commissioning of fixed VAR compensator at 11 KV level in 220 KV substation for improvement of power factor.

- Furnace oil consumption reduced by monitoring and strictly following furnace operation practices which were reviewed and modified wherever necessary.
- Energy audit of various areas of the plant was carried out with internal resources and energy saving measures were identified in various areas. The feasibility of operating water cooling towers with reduced number of fans during winter was established.
- Energy audit of the plant was carried out by engaging M/s Tata Energy Research Institute, Bangalore. The energy conservation measures suggested by the consultant are under implementation.
- Graphite carbon block lined pots continued to operate satisfactorily during the year.

###### (iii) Captive Power Plant:

- Control of turbidity in clarified water to have better quality of DM water which has resulted in reduced DM water consumption.
- Chemical cleaning of air heater baskets in unit-6.
- Commissioning of dust suppression system in Coal Handling Plant resulted in saving in water and power consumption.
- Modified method of islanding operation during high grid frequency has yielded reduced fuel consumption.
- Use of raw water in ash evacuation system resulted in reduction in chemical consumption.
- Modification in diesel loco used for coal transportation resulted in reduced diesel consumption.
- Optimisation of cooling tower fans operation depending upon ambient temperature.
- Optimisation of boiler operation by controlling excess air.

##### b) Additional investment and proposals being implemented:

1. Installation of capacitor banks at Captive Power Plant ( CPP ) , Angul for improvement of power factor.
2. Installation of solar water heating system at Nalco Atithi Niwas Guest House at Angul and Trainees' Guest House at Training Institute at Bhubaneswar.
3. Installation of on line cleaning of condenser at CPP, to optimise condenser vacuum at all time to improve turbine heat rate which in turn results in saving of coal.
4. Recycling of ash pond overflow water and industrial drain water in CPP.
5. Installation of information net work based on computers.

## FORM – A

### FORM FOR DISCLOSURE OF PARTICULARS WITH RESPECT TO CONSERVATION OF ENERGY

#### A. Power and Fuel Consumption :

	CAPTIVE POWER PLANT ANGUL		ALUMINA REFINERY DAMANJODI	
	CURRENT YEAR (1997-98)	PREVIOUS YEAR (1996-97)	CURRENT YEAR (1997-98)	PREVIOUS YEAR (1996-97)
<b>1. Electricity</b>				
a) Purchased from GRIDCO	15.944	18.027	–	–
(Million KWH)				
Total amount (Rs. in lakh)	469.61	523.03	–	–
Average Rate (Rs./KWH)	2.95	2.90	–	–
b) Own Generation				
Through Diesel Gen. Unit		Not applicable		Not applicable
Unit per Ltr. of Diesel				
Oil/cost/unit				
c) Through Steam Turbine/Generator				
Unit (Gross) (Million KWH)	4389.690	4654.398	261.691	250.075
Energy cost per unit (Rs./KWH)	0.4041	0.3315	–	–
<b>2. Coal (specify quality &amp; where Used) (Quality F&amp;G grades)</b>				
Quantity (Tonnes)	3474656	3558801	602134	580351
Total cost (Rs.in lakh)	15010.23	13221.69	6024.13	4978.82
Average rate (Rs./Tonnes)	432	372	1000	858

#### 3. Fuel Oil & LDO

	CAPTIVE POWER PLANT ANGUL		ALUMINA REFINERY DAMANJODI		SMELTER ANGUL	
	1997-98 Current Year	1996-97 Previous Year	1997-98 Current Year	1996-97 Previous Year	1997-98 Current Year	1996-97 Previous Year
Quantity (KL)	9165	8625	74636	71275	22105	21020
Total amount (Rs. in lakh)	700.47	576.91	4619.75	4399.89	1465.74	1349.01
Average (Rs./KL)	7643	6689	6190	6173	6631	6418

#### B. Consumption per unit of production

Products (with details)	Unit	Standards (If any)	Current Year (1997-98)	Previous Year (1996-97)
<b>1. Alumina Refinery, Damanjodi</b>				
(a) Power	(KWH/Ton)	380	347.55	346.68
(b) Fuel oil for calcination	(Kg/Ton)	85.3	78.82	77.49
(c) Coal for steam	(Kg/Ton)	750	671	688
(d) Oil for steam	(Kg/Ton)	10	2.17	3.69
<b>2. Smelter, Angul</b>				
(a) A. C. Energy	(KWH/Ton)	14,600	15,911	15,804
(b) Fuel Oil	(Kg/Ton)	95	102.93	96.47
(c) Others				
i) C. P. Coke	(Kg/Ton)	408	401	415.76
ii) C. T. Pitch	(Kg/Ton)	106.5	106	104.76

## FORM - B

### FORM OF DISCLOSURE OF PARTICULARS WITH RESPECT TO ABSORPTION

#### TECHNOLOGY ABSORPTION:

Efforts made in technology absorption.

#### I. Research & Development

##### 1. Specific areas in which R&D activities carried out by the Company are:

##### A) In-house R&D Activities:

##### (a) Alumina Plant:

##### i) Revamping of R&D Centre:

- The perspective plan prepared for revamping of R&D Centre at Alumina Refinery is under implementation. The building has been constructed and several equipment like Whiteness Index Metre, Sedigraph, BET Surface Area Analyser, TG/DTA, XRD have been ordered. Some of these equipments have also been commissioned successfully.
- Recognition of NALCO's in-house R&D facilities at both M&R and S&P complexes have been renewed upto 31.03.2000 by DSIR, Ministry of Science & Technology, Govt. of India.

##### ii) Development of Special Grade Alumina & Hydrate:

- The pilot plant based on in-house technical expertise is commissioned. Speciality hydrate produced have been successfully market tested. Speciality Alumina Development and production is being undertaken.
- A patent has been granted concerning Development of Alumina Hydrate.

##### iii) Speciality Products Marketing:

- Speciality Products Marketing Group has successfully taken up various market development activities pertaining to Speciality Products like Speciality Hydrate & Alumina, Zeolite & Gallium etc. Customers in both domestic and overseas market have been identified and samples have been sent for their evaluation.
- 30 consignments of NSPH-10 amounting 246 MT, two consignments of NSPH-20 and one consignment of NSPH-25 produced in Special Alumina Pilot Plant have been sold in the domestic market successfully during the year 1997-98 against a target capacity of 150 tpy.
- Product Catalogues have been prepared for Speciality Alumina and Zeolite-A.

- Actions have been initiated for introduction of suitable legislations in the country for banning the use of Sodium Tri-Poly Phosphate (STPP) in detergents to facilitate the use of eco-friendly Zeolite-A in its place. In this regard Ministry of Environment & Forests, Ministry of Steel and Mines, Ministry of Science & Technology, Government of India have been moved for early enactment of such measures.

##### iv) Cooling Water Treatment:

New cooling water treatments trial continued throughout the year with Chemicals of M/s Thermax, M/s. NALCO Chemicals and M/s. Chemical Specialities for duration of 4 months each respectively. Findings are under evaluation.

##### v) Settling Test using Synthetic Flocculant:

Experiments were conducted with samples of Chemicals supplied by M/s. NALCO Chemicals and M/s. Rishab Metals for synthetic flocculants used in Settlers and Washers and with Cytec's CGM to find suitable alternative to existing chemicals used.

##### b) Smelter Plant:

##### i) Improvements in Holding Furnace Firing System in Cast House:

A developmental study was taken up in Cast house for reduction of specific consumption of HFO in Ingot Casting Facility. By modifying the furnace firing practices including the restoration of the ON/OFF Controls on HFO injection line, substantial reduction in specific HFO consumption was achieved.

Additionally, about 4% reduction in specific HFO consumption was observed with the use of additive as compared to the period of operation without additive.

##### ii) Investigations on Premature Failure of Anode Bake Oven Flue Walls:

Investigative studies were undertaken to pin-point the causes for premature failure of Bake Oven Flue Walls. Alkali and Fluoride impregnation into refractory material have been found to be one of the major causes for the same and actions are underway to overcome such difficulties.

##### iii) Prediction on Electrolytic Cell (Pot) Life:

Quarterly reports on prediction of pot life and failure probability were prepared utilising the software developed through JNARDDC, Nagpur.

## FORM - B

### B) Collaborative R&D Projects in hand:

#### i) Gallium Project:

Based on the technology back up from CECRI, Karaikudi and NFC, Hyderabad, a project for setting up of a 950 kg/yr (5N Grade) Gallium Plant at M&R Complex, Damanjodi using Spent Liquor as the main feed stock with a total project cost of Rs. 9.46 crore including grant-in-aids of Rs. 4.11 crore from different Central Govt. agencies like DST, DSIR, DRDO & NRDC is under implementation. After obtaining approval from Expenditure Finance Committee (EFC), Ministry of Mines, Govt. of India, a Project Review Committee constituted under the Chairmanship of CMD, NALCO and Members drawn from DST, DSIR, DRDO, NRDC, EIL, CECRI, NFC & NALCO is meeting periodically to review the progress on the project.

Approval for the revised outlay of Rs. 12.78 crore, as projected by EIL, has been received from the Standing Finance Committee (SFC), Govt. of India for commencing the project activities.

#### ii) Development of Zeolite-P:

A collaborative R&D project has been successfully completed with NCL, Pune both in laboratory and pilot plant scales for development and production of Zeolite-P using Alumina Tri-Hydrate (ATH), Sodium Aluminate Liquor and Spent Liquor of NALCO origin. The product has been fully characterised and its quality matches well with that of the International standards.

#### iii) Removal of Oxalic Carbon from Bayer Liquor:

The first phase of lab. scale studies on the project on exploratory studies for removal of oxalate by membrane process has been completed and it has been observed that starting from 29% to 68% oxalates are removed at various pressures from the wash filtrate and green liquors respectively. However, the life of the membrane support material (non woven polyester material) is very less due to high alkalinity of Bayer liquors. Efforts are being made to develop a suitable membrane support material for prolonged uses.

#### iv) Development of Rare Earth Added Aluminium Alloys for Conductor Application:

Development of Rare Earth Added Aluminium Alloys for Conductor Application on laboratory scale undertaken in collaboration with RRL, Thiruvananthapuram have shown promising results. Suitable alloys compositions have been developed under the programme. For standardisation of the process know-how developed and ascertaining the reproducibility of the result, charges of 50-60 kg batch level have been casted in conformity to above composition so that the process can be further augmented to its pilot scale realisation.

#### v) Waste Land Development by Application of Fly Ash:

A collaborative R&D project has been completed successfully with RRL, Bhopal in the laboratory as well as in the pilot plant scale for Development of Waste Land by Application of Fly Ash in both Angul & Damanjodi sectors covering an area of around 5 acres each with a duration of 18 months. The project as envisaged has brought in awareness amongst the local villagers and farmers and they have approached NALCO to supply fly ash to them so that the same can be used in their land to act as a soil modifier for enhancing yields of various produce. Vegetables like tomato, cabbage, potato, lady's finger, cereals like wheat, paddy and maize; oil bearing species like sunflower have been successfully cultivated and increase in productivity of more than 20% was observed in each case. Testing for food values, nutrients, heavy metal off-take if any etc. have been undertaken on the produce. Post-harvesting soil investigations have also been completed. Extension of the project for 3 more years under sponsorship of Fly Ash Mission, Govt. of India has been approved by NALCO to study the long term effect on use of Fly Ash for soil fertility and crop yield.

#### vi) Development of Fibre-Reinforced Polymer Composites for Building Components as Wood Substitute:

After satisfactory development of Fibre-reinforced Polymer Composites for Building Components as Wood Substitute from NALCO's Red Mud, a pilot scale project has been taken up at a cost of Rs. 7.5 lakhs in collaboration with RRL, Bhopal for scaling up the production facility. The project is under progress.

#### vii) Development of Fly ash based Wear Resistant Ceramic Products:

A collaborative R&D project for Development of fly ash based Wear Resistant Ceramic Products has been undertaken and detailed exploratory studies have yielded desired results.

#### viii) Characterisation of Spent Pot Lining & Development of Process Flow-Sheet for Extraction of Valuables.

A laboratory scale R&D project has been taken up in collaboration with JNARDDC, Nagpur for Characterisation of Spent Potlining and Development of Process Flowsheet for extraction of valuables.

#### ix) Production of Wear Resistant Cast Irons from NALCO Red Mud & Conversion of NALCO Red Mud into Ferro- Titanium:

Consultancy R&D projects for production of Wear Resistant Cast Irons from NALCO Red Mud and

## FORM - B

conversion of NALCO Red Mud into Ferro Titanium have been taken up with IIT, Kharagpur. The project is under active pursuit.

### 2. Benefits Derived:

- i) Commercial enterprise for production of 950 Kg (5N Grade) per annum Gallium metal, considered as the strategic metal and a project of National importance, is under implementation at NALCO's M&R Complex, Damanjodi using Spent Liquor of Alumina Process Stream backed by indigenously developed technologies by CERCI, Karaikudi and NFC, Hyderabad and engineering by EIL, New Delhi.
- ii) Based on indigenous technology developed by CSMCRI, Bhavnagar, a 10,000 TPA Detergent Grade Zeolite-A commercial plant is under implementation in the loop of NALCO's Alumina Refinery Plant at Damanjodi at a total project cost of Rs. 24.10 crore with engineering support from EIL, New Delhi.

Development of this technology has been adjudged as the Best Technology developed during the year 1997 in the chemical discipline and two NALCO's R&D technologists along with four scientists of CSMCRI, Bhavnagar have received the "Top NRDC Independence Day Award-1997" for their Meritorious invention. Further, a patent application entitled - "A Process for the Manufacture of Zeolite-A useful as a Detergent Builder" has been filed in India jointly by NALCO & CSMCRI.

- iii) A pilot plant of 600 TPA capacity with a total investment of Rs 3.29 crore with financial support of Rs 1.0 crore from DSIR under their PATSER Scheme and with in-house technology back up is under trial production at M&R Complex, Damanjodi. Test Marketing of the products have been successfully launched and positive responses have been received from the user industries.

A patent titled "Process for the Precipitation of Alumina Hydrate with Superior purity Fineness" involving special precipitation technique and use of ground hydrate to produce different grades of Special Hydrates has been granted for a full term of 14 years to two R&D personnel who have inturn assigned the Patent right to NALCO.

### 3. Future Plan of Action:

- i) Performance monitoring and stabilisation of equipmental facilities followed by upgradation of R&D Centres at both Damanjodi and Angul sectors matching with the future R&D requirements of the company.
- ii) Development and trial production of different grades of Speciality Alumina & Hydrates at Pilot Plant scales in tune with the increasing Market needs.

- iii) Exploring possibilities for setting up of a suitable size Tabular Alumina Unit with Overseas Technological back- up.
- iv) Implementation of purification facilities of Gallium metal from 5N to 7N Grade with imported state-of-the-art technological support.
- v) Market development and tie-ups for speciality products with domestic and international customers.
- vi) Development of Cast and Master Alloys for use in Aluminium Foundry Industry.
- vii) Development of Zeolite-X, Zeolite-Y, Mordenite Zeolite, Formulations of Zeolite, Layered Silicates and Development of Zeolite Membranes catering to the applications such as selective sorption of liquid and gas mixtures, catalysis etc.
- viii) Pilot scale studies on production of Synthetic Granite from Fly Ash.
- ix) Experimentation of TiB<sub>2</sub> coating over Cathode Carbon in Aluminum Electrolytic Cells.

### 4. Expenditure on R&D:

	(Rs. in lakhs)	
	1997-98	1996-97
a) Capital	494.16	14.38
b) Recurring	186.58	37.25
c) Total	680.74	51.63
d) Total R&D expenditure as % of turnover	0.367	0.029

### II. Technology Absorption, Adoption & Innovation:

Growth and excellence of any industrial house is dependent on its visionary approach towards developing and acquiring new technologies and technology Path ways for leaving an indelible mark on the growth frontiers. The missionary will and all-round efforts of NALCO's scientific and technological work force has brought a culture of a learning organisation. Implementation of innovative process know-hows, developmental insights, engineering and re-engineering of state-of-the-art technologies is resulting in increasing overall productivity, quality, marketability and consumer acceptability of the produce has been increased manifolds. As a result, the organisation is marching forward with flying colours with a strong International footing supported by positive technical and techno-commercial environments. The technology edge is expected to add new feathers in the cap of NALCO to establish and re-establish further as a leading global player in the field of alumina and aluminium.



## FORM - B

From the day one of its inception, NALCO has been thriving hard for growth and development of indigenous technologies by joining hands with scores of National institutions of repute engaged in the field of alumina - aluminium and allied products research, licencing organisation, consultancy, engineering firms, for development. Continuous upgradation of the domestic technological base and commercialising the suitable know-hows developed depending on the governing market forces is the key word. This pragmatic approach has substantially boosted the morale and the very foundation of NALCO's technological base has resulted in gradual self reliance and reducing import of technologies from overseas.

In addition, birth of NALCO's Business Development Deptt. has created a good example to act as an interface with the outside world for tapping new opportunities through the gateway of the Company which has resulted in spreading the right business opportunities and environment. Keeping in tune with the Objective and Mission of the organisation, appropriate technology is selected for the right type of product aimed at putting up new commercial ventures in diversified areas for production of different value added items. Furthermore, formation

of the Speciality Products Marketing Group has already started giving the desired momentum to facilitate market penetration, market survey, marketing tie-ups, market R&D and marketing of speciality products keeping the consumers in centre stage.

Under the ongoing liberalised economic climate being introduced by Government of India since 1991, company's R&D activities all along have been growth and prospect oriented which has seen many eventful activities in its functioning. Many Awards and Honours, Patenting activities, Development of Novel value added products, Development of relevant technologies in the fields of alumina and aluminium research, Waste utilisation, Energy conservation, Development of Non-conventional energy sources have been the hall mark of prospect and such recognitions. Technology adoption, absorption, assimilation, upgradation followed by innovation and indigenisation of imported technologies and its appropriate adaptability into domestic environment, gradual import substitution of spare parts under a stipulated time frame and thrust on development and dependence of indigenous technologies have been amongst the major thrust areas of company's R&D programme.

### III. Details of the technology imported during the past five years.

Sl. No.	Technology imported	Year of import	Has technology been fully absorbed	If not fully absorbed, reason thereof & future plan of action.
1.	Technology for production of Special Grade Alumina & Hydrate from M/s. ATA, USA.	1995	Project is under implementation.	Project is under implementation.
2.	AP technology is imported for debottlenecking of Alumina Refinery for capacity enhancement from 0.8 mln.tpy. to 1.05 mln.tpy.	1997-98	AP technology is being implemented.	AP technology is being implemented.

## Review of Accounts by C & AG

COMMENTS OF THE COMPTROLLER & AUDITOR GENERAL OF INDIA UNDER SECTION 619(4) OF THE COMPANIES ACT 1956 ON THE ACCOUNTS OF NATIONAL ALUMINIUM COMPANY LIMITED, BHUBANESWAR FOR THE YEAR ENDED 31ST MARCH 1998.

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I have to state that the Comptroller & Auditor General of India has no comments upon or supplement to the Auditors' Report under Section 619(4) of the Companies Act 1956 on the accounts of National Aluminium Company Limited for the year ended 31st March 1998.

Dated, Calcutta  
The 28th August, 1998

Sd/-  
(A. Pattanayak)  
Principal Director of Commercial  
Audit & Ex-Officio Member, Audit  
Board - I, Calcutta.

## Review of Accounts by C & AG

### REVIEW OF ACCOUNTS OF NATIONAL ALUMINIUM COMPANY LIMITED FOR THE YEAR ENDED 31ST MARCH 1998 BY THE COMPTROLLER & AUDITOR GENERAL OF INDIA

(Review of Accounts has been prepared without taking into account the Comments under Section 619(4) of the Companies Act, 1956 and the qualifications contained in Statutory Auditors' Report)

#### 1. FINANCIAL POSITION

The table below summarises the financial position of the company under broad headings for the last three years :

	1995-96	1996-97	1997-98
(Rs. in lakhs)			
<b>LIABILITIES :</b>			
a) Paid-up capital			
i) Government	112299.93	112299.93	112299.93
ii) Others	16561.99	16561.99	16561.99
b) Reserves & Surplus :			
i) Free Reserves & Surplus	110985.76	148821.60	189343.75
ii) Investment Allowance			
Utilisation Reserve	19846.18	19846.18	19846.18
iii) Capital Reserve	—	60.00	127.99
c) Borrowings from Consortium of International Banks	102491.18	58000.00	59410.00
d) Current Liabilities & Provisions	22848.26	32040.56	36151.83
Total	385033.30	387630.26	433741.67
<b>ASSETS :</b>			
e) Gross Block	464904.37	468848.35	477167.05
f) Less : Cumulative Depreciation	170084.43	195793.41	222632.32
g) Net Block	294819.94	273054.94	254534.73
h) Capital Work-in-progress	6315.75	9894.75	18931.49
i) Misc. Expenditure to the extent not written off	764.93	536.58	467.55
j) Investments	2050.01	3150.00	4391.00
k) Current Assets, Loans & Advances	81082.67	100993.99	155416.00
TOTAL	385033.30	387630.26	433741.67
l) Working Capital (k-d)	58234.41	68953.43	119264.97
m) Capital Employed (g + l)	353054.35	342008.37	373799.70
n) Net worth [a + b (i) - i]	239082.75	277146.94	317738.02
o) Net worth per rupee of paid up capital (in Rs.)	1.86	2.15	2.47

#### 2. RATIO ANALYSIS

Some important financial ratios on the financial health and working of the Company at the end of last 3 years are as under :

	1995-96	1996-97	1997-98
(in percentage)			
<b>A. Liquidity Ratio</b>			
Current Ratio	355%	315%	430%
<b>B. Debt Equity Ratio</b>			
Long term debt to Equity	43%	21%	19%
<b>C. Profitability Ratio</b>			
a) Profit before Tax to -			
i) Capital Employed	17.41%	16.25%	16.73%
ii) Networth	25.70%	20.01%	19.61%
iii) Sales	35.18%	31.20%	33.58%
b) Profit after tax to Equity Capital	47.69%	38.16%	42.45%
c) Earning per share (in Rupees)	4.77	3.82	4.24

Due to imbalance between debt and equity the earning per share is low though the Company earned substantial profit in all the three years.

## Review of Accounts by C & AG

### 3. SOURCES AND USES OF FUNDS

Funds amounting to Rs. 83082.79 lakhs from internal and external source were generated and utilised during the year as shown below :

#### SOURCES OF FUNDS :

- a) Funds from operation  
Net Profit for the year  
Add : Depreciation

- b) Misc. expenditure written off/  
adjusted during the year  
c) Grants in Aid  
d) Increase in borrowings

Total

	(Rs. in lakhs)
54696.95	
26838.91	
	81535.86
	68.93
	68.00
	1410.00
	83082.79

#### UTILISATION OF FUNDS :

- a) Increase in Gross Fixed Assets  
b) Increase in Capital Work-in-Progress  
c) Increase in Working Capital  
d) Dividend paid (including dividend tax)  
e) Increase in Investment

Total

	(Rs. in Lakhs)
8318.70	
9036.74	
53146.50	
11339.85	
1241.00	
83082.79	

### 4. INVENTORY LEVELS

The inventory levels at the close of last three years are given below :

	1995-96	(Rs. in lakhs) 1996-97	1997-98
i) Raw materials	5209.96	3321.83	3430.56
ii) Stores and spares	21910.67	23680.52	24914.89
iii) Finished goods	6891.77	8927.09	11249.90
iv) Percentage of Finished goods to sales	3.95%	5.01%	6.04%

### 5. SUNDRY DEBTORS

The sundry Debtors vis-a-vis Sales in the last three years are given below :

Year ended As on	Sundry Debtors			Total Sales during the year	Percentage of Sundry Debtors to Sales
	Considered Good	Considered Doubtful	Total		
31.3.1996	29936.53	388.24	30324.77	174559.08	17%
31.3.1997	34018.32	345.46	34363.78	178183.99	19%
31.3.1998	36062.92	347.73	36410.65	186386.95	20%

Dated, Calcutta  
The 28th August 1998.

Sd/-  
(A. Pattanayak)  
Principal Director of Commercial Audit &  
Ex-officio Member Audit Board -I  
Calcutta

## Auditor's Report

To  
The Members of  
National Aluminium Company Limited

We have audited the attached Balance Sheet of NATIONAL ALUMINIUM COMPANY LIMITED as at 31st March, 1998 and the Profit and Loss Account for the year ended on that date annexed thereto and report that :

1. We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit :
2. In our opinion, proper books of account as required by law have been kept by the company so far as appears from our examination of the books :
3. The Balance Sheet and Profit and Loss Account referred to in this report are in agreement with the books of account :
4. i) As stated in Note No. 2.1 of Schedule 3 to the Accounts, depreciation charged for the year is higher by Rs. 98.88 Crores and the accumulated depreciation charged upto 31.3.1998 is lower by Rs. 552.21 Crores, compared to the depreciation calculated at the rates prescribed under Schedule XIV of the Companies Act, 1956.
- ii) As stated in Accounting Policy No. 5.4, scrap is not accounted for on accrual basis.
- iii) Subject to the forgoing, in our opinion and to the best of our information and according to the explanations given to us, the said Balance Sheet and Profit and Loss Account together with notes thereon, give in the prescribed manner, the information required by the Companies Act, 1956 in the manner so required and give a true and fair view :
  - a) in the case of the Balance Sheet of the state of affairs of the Company as at 31st March, 1998.
  - and
  - b) in the case of the Profit and Loss Account, of the Profit of the Company for the year ended on that date.
5. As required by the Manufacturing and Other Companies (Auditor's Report) Order, 1988 issued by the Central Government in terms of Section 227 (4A) of the Companies Act, 1956 and on the basis of such checks of the books and records as we considered appropriate and as per the information and explanations given to us in the course of our audit and to the best of our knowledge and belief, we further report that:
  - i. a) The company has maintained proper

records to show full particulars including quantitative details and situation of its fixed assets.

- b) The Company has a regular programme of verification of fixed assets, which is kept up during the year and which, in our opinion is adequate and reasonable, having regard to the size of the Company and the nature of its assets, though all the fixed assets are not verified every year under the said programme. The discrepancies noticed on such verification are not material and we have noticed that they are being reconciled.
- II. None of the Fixed Assets have been revalued during the year.
- III. The Stocks of finished goods, stores, spare parts and raw materials of the Company at all its locations (except stocks with third parties and in transit) have been physically verified by the management at reasonable intervals.
- IV. In our opinion, the procedures of physical verification of stocks followed by the management are reasonable and adequate in relation to the size of the Company and the nature of its business.
- V. The discrepancies noticed on such physical verification of stock as compared to book records were not material. In the case of coal at M & R Complex Unit, the shortage worked out to 2.4% of the quantity handled. Such discrepancies have been properly dealt with in the books of account, in respect of shortages while excesses have been ignored.
- VI. In our opinion and on the basis of our examination of the valuation of stocks, such valuation is fair and proper in accordance with the normally accepted accounting principles and is on the same basis as in the preceding year except that Excise Duty payable on stock of finished goods as on 31.3.1998 is not included in the value of such stock as stated in Note No. 1.5 of Schedule 3 to the Accounts, which has no effect on the profit.
- VII. The Company has not taken any loans, secured or unsecured, from companies, firms or other parties listed in the registers maintained under section 301 of the Companies Act, 1956 and/or to Companies under the same management as defined under section 370 (IB) of the Companies Act, 1956.
- VIII. The Company has not granted any loans, secured or unsecured, to Companies, firms or other parties listed in the register maintained

## Auditor's Report

under section 301 of the Companies Act, 1956 and/or to Companies under the same management as defined under section 370(IB) of the Companies Act, 1956.

- IX. The principal amounts and interest wherever applicable thereon in respect of loans and/or advances in the nature of loans given by the Company to bodies corporate and employees have been recovered regularly as stipulated except amounts due from Bharat Gold Mines Limited as stated in Note Nos. 1.6 of Schedule 3 to the Accounts.
- X. In our opinion and according to the information and explanations given to us, there are adequate internal control procedures commensurate with the size of the Company and the nature of its business with regard to purchase of stores, raw materials including components, plant and machinery, equipment and other assets and with regard to sale of goods.
- XI. According to the information and explanations given to us, there are no transactions of purchase of goods and materials and services made in pursuance of contracts or arrangements entered in the register maintained under section 301 of the Companies Act, 1956 and aggregating during the year to Rs. 50,000/- or more in value from/to any party.
- XII. As explained to us, the Company has a regular procedure for determination of unserviceable or damaged stores, raw materials and finished goods. Adequate provision has been made in the accounts for the loss arising on items so determined.
- XIII. The Company has not accepted any deposits from public, in terms of Section 58A of the companies Act.
- XIV. In our opinion, reasonable records have been maintained by the company for the sale and disposal of realisable scrap. The Company has no by product.
- XV. In our opinion, the company has a reasonable adequate Internal Audit System commensurate with the size and nature of its business.
- XVI. We have broadly reviewed the books of account maintained by the company pursuant

to the rules made by the Central Government for the maintenance of cost records under section 209 (I) (d) of the Companies Act, 1956 and are of the opinion that prima-facie the prescribed records have been maintained. We have not, however, made a detailed examination of the said records. As per the directives of the Central Government, Cost Auditors have been appointed to carry out detailed review of records for the year.

- XVII. The Company is regular in depositing Provident Fund dues with appropriate authorities. None of the employees of the company is a member of the Employees' State Insurance. Family pension dues from 16.11.1995 amounting to Rs. 589.07 lakhs, have been deposited with NALCO Employees' Provident Fund Trust and not with Regional Provident Fund Commissioner, pending grant of exemption from such payment in view of creation of separate pension fund by the Company as stated in Note No. 2.3 of Schedule 3 to the Accounts.
- XVIII. According to the information and explanations given to us, no undisputed amounts payable in respect of income-tax, wealth-tax, sales-tax, customs duty and excise duty, were outstanding as at the last day of the financial year for a period of more than six months from the date they became payable.
- XIX. During the course of our examination of books of account carried out in accordance with the generally accepted auditing practices, we have not come across any personal expenses other than expenses under contractual obligations and/or generally accepted business practices which have been charged to revenue account.
- XX. The Company is not a Sick Industrial Company within the meaning of Clause (o) of Sub-section (1) of Section 3 of the Sick Industrial Companies (Special Provisions) Act, 1985.

For Brahmayya & Co.,  
Chartered Accountants.

Place : New Delhi  
Date : 12.06.1998

(V. Seetaramaiah)  
Partner

**National Aluminium Company Limited**  
**Bhubaneswar**

**Annual Accounts**  
**1997-98**

## Statement on Significant Accounting Policies

### A. BALANCE SHEET:

#### 1. GRANTS-IN-AID:

Grants-in-aid received from Government for financing capital assets are credited to Capital Reserve. Equivalent amount of depreciation written off on such assets in each year is transferred from Capital Reserve to Profit & Loss Account.

#### 2. FIXED ASSETS:

- 2.1 All fixed assets are stated at historical cost less depreciation. Cost of acquisition is inclusive of freight, duties, taxes, allocated incidental expenditure during construction and net of MODVAT credit wherever eligible.
- 2.2 Expenses on development of land including leasehold land is capitalised forming part of cost of land.
- 2.3 Expenses of capital nature incurred on assets laid on land not belonging to the Company are capitalised under appropriate asset heads.
- 2.4 Where final bills/statements of account are not received, capitalisation of assets has been done provisionally on the basis of technical assessments which may undergo change on settlement of final bills/receipt of statements of account.
- 2.5 Fixed assets acquired out of financial grant from Government are shown at gross cost.

#### 3. INCIDENTAL EXPENDITURE DURING CONSTRUCTION:

Direct revenue expenditure including financing cost incurred during construction period on New/Expansion projects is treated as incidental expenditure during construction and is allocated to relevant Fixed assets.

#### 4. INVESTMENTS:

Investments are stated at cost.

#### 5. INVENTORIES:

- 5.1 Raw materials, stores, spare parts and loose tools are valued at weighted average cost.
- 5.2 Finished goods including Aluminium scrap are valued at lower of cost or net realisable value. The cost is determined on the basis of relevant years average cost of production. The cost excludes administrative overheads, selling and distribution overheads, interest, exchange variation, depreciation on exchange variation capitalised and is net of eligible MODVAT credit.
- 5.3 Intermediary product, viz. Anodes are valued at direct material cost. Anode butts and anode rejects are valued at lower of direct material cost or net realisable value.
- 5.4 Scrap other than aluminium scrap is recognised in the accounts as and when sold.
- 5.5 Stocks of work-in-process are ascertained on the basis of technical estimates and are valued at annual average direct material and power & fuel cost.
- 5.6 Provision is made at 20% of cost of inventory of stores and spares not moved for 5 years and above.

### 6. MISCELLANEOUS EXPENDITURE (TO THE EXTENT NOT WRITTEN OFF):

Expenditure on feasibility studies, preparation of project reports, documentations and other related matters on new/expansion projects and unsuccessful projects, capital contribution to external Research & Development Institutions and disputed sales tax liabilities pertaining to original project, to the extent not adjusted, are grouped under this head pending capitalisation/write off.

### 7. CONVERSION OF FOREIGN CURRENCY:

- 7.1 Exports and imports during the year in foreign currency are recorded in Indian rupees by applying average Bill Buying and Bill Selling rates of the respective months.
- 7.2 Foreign currency transactions settled during the year through Bank Accounts in India are recorded in Indian rupees by applying actual exchange rates prevailing on respective dates of transaction. Foreign currency transactions settled during the year through foreign currency bank account are recorded by applying average mean rate of bill buying and bill selling during the respective month of transaction. The interest income during the year in foreign currency is recorded in Indian rupees at the average exchange rates for each month.
- 7.3 All outstanding long term loans, unrealised export invoices, bank balances and other current assets/liabilities are recorded in Indian rupees by applying appropriate exchange rates prevailing on the date of the Balance Sheet.
- 7.4 In case of long term liabilities incurred for acquisition of fixed assets and not settled within the accounting period, the net conversion loss/gain and in case of liabilities settled during the accounting period, the net transaction loss/gain are perceived and appropriate amount relating to the capitalised value of Plant & Machinery is adjusted in the carrying amount of Plant & Machinery and balance adjusted in Capital Work-in-Progress.

### 8. CONTINGENT LIABILITIES:

Contingent liabilities, to the extent not provided for, are shown under notes forming part of accounts.

### B. PROFIT AND LOSS ACCOUNT:

#### 1. DEPRECIATION:

- 1.1 Depreciation is provided under straight line method.
- 1.2 Depreciation was charged in respect of main Plant and Machinery and related Factory Buildings and Storage godowns etc., at the rate of 5 per cent up to 31st March, 1994, based on estimated useful life of assets without retention of 5 per cent residual value. The useful life of these assets have been revised from 20 years to 18 years to bring at par with life of "Continuous process plant" as envisaged in Schedule XIV of Companies Act, 1956. Such change in life of assets is considered from 1.4.93 i.e. from the year of introduction of "Continuous process plant" concept in Schedule XIV of Companies Act, 1956. Depreciation rate on such assets has been recomputed based on guidelines issued under Circular No.14/93 dated,



## Statement on Significant Accounting Policies

20.12.93 by Department of Company Affairs, by allocating the unamortized value over the remaining life after retention of 5 per cent residual value except for assets already written off fully.

- 1.3 Depreciation rates on the following assets are considered based on the estimated useful life of assets which are higher than the respective rates prescribed in Schedule XIV of Companies Act, 1956.

<b>Assets</b>	<b>Rate of Depreciation</b>
Red mud pond (Earth work portion)	14.29%
Ash pond at Alumina Refinery (Earth work portion)	13.34%
Ash pond at CPP	15.38%

- 1.4 Depreciation on all other assets is provided as per rates laid down in Schedule XIV of the Companies Act, 1956.
- 1.5 Assets costing Rs. 5,000/- or less individually are depreciated fully in the year in which they are put to use.
- 1.6 Exchange variation loss/gain adjusted to cost of Plant and Machinery is fully depreciated prospectively over the residual life of assets.
- 1.7 Assets laid on land not belonging to the Company are depreciated over a period of five years.
- 1.8 Cost of leasehold land including development expenses thereon is amortised on straight line method over a period of 25 years in the case of Mines and 20 years or the period of lease whichever is less in other cases.

**2. PRIOR PERIOD EXPENDITURE/INCOME AND PRE-PAID EXPENSES :**

Income/Expenditure relating to prior period and prepaid expenses which do not exceed Rs.1 lakh in each case are treated as income/expenditure of the current year.

**3. RECOGNITION OF REVENUE:**

- 3.1 The export sale is recognised based on the date of Bill of Lading irrespective of terms of sale viz. FOB, C&F and CIF etc. The indigenous sale is recognised based on the date of Railway Receipt, Lorry Receipt or Delivery Challan.
- 3.2 Claims are accounted for in the Profit and Loss Account based on certainty of their realisation.
- 3.3 Interest receivable is accounted for based on certainty of realisation from past experience.
- 3.4 Consumption of raw materials and stores & spares are accounted for at net of MODVAT credit wherever eligible.

In terms of our attached report.

For and on behalf of  
Brahmayya & Co.  
Chartered Accountants

**V. SEETARAMAIAH**  
Partner

New Delhi  
12th June, 1998

**K.N. RAVINDRA**  
Company Secretary

**C. VENKATARAMANA**  
Director (Finance)

**S.N. JOHRI**  
Chairman-cum-  
Managing Director

- 3.5 Balances lying in duty entitlement under DEPB scheme and advance licences are recognised on actual availment.

**4. EXCISE DUTY:**

Excise Duty is accounted for on despatch of products from the factory.

**5. EXCHANGE VARIATIONS:**

The net exchange variation loss/gain in case of unsettled long term liabilities other than those incurred for acquisition of fixed assets on the date of the Balance Sheet is recognised in the Profit and Loss Account.

**6. REPAIRS AND REPLACEMENTS:**

- 6.1 Replacements of major machinery components of high value like gear boxes, transformers, conveyor belts, wire ropes etc. are charged to Profit & Loss account in the year of replacements.

- 6.2 Pot relining expenses are charged to Profit and Loss Account in the year of occurrence.

**7. RETIREMENT BENEFITS:**

- 7.1 Contributions to Provident Fund is recognised in Profit & Loss Account on the basis of actual liability.

- 7.2 Liability on account of service gratuity is covered under Group Gratuity Life Assurance Scheme of Life Insurance Corporation of India. Contributions to the scheme are charged to Profit and Loss Account.

- 7.3 Liabilities towards other retirement benefits like leave encashment and post retirement medical facilities to employees at the end of the year are provided for on the basis of actuarial valuation.

**8. MISCELLANEOUS EXPENDITURE :**

- 8.1 Expenditure on Unsuccessful Projects and capital contribution to external Research & Development Institutions are written off over a period of three years.

- 8.2 Mines development expenditure is charged to Profit & Loss Account in the year of occurrence.

**9. RESEARCH & DEVELOPMENT EXPENDITURE:**

Research and development expenditure except of capital nature, is charged to Profit & Loss Account in the year of incurring after setting off of incidental income.

**10. DIVIDEND:**

Proposed dividend, subject to approval of Central Government under Section 205(1)(c) of the Companies Act, 1956 and awaiting approval of shareholders, is provided in the accounts.

## Balance Sheet as at March 31, 1998

(In Thousand Rupees)

	Schedule	As at March 31, 1998	As at March 31, 1997
<b>SOURCES OF FUNDS</b>			
<b>Shareholders' Funds :</b>			
Share capital	1.1	1288,61,92	1288,61,92
Reserves and Surplus	1.2	2093,17,92	1687,27,78
<b>Loan Funds :</b>			
Secured loans	1.3	—	—
Unsecured loans		594,10,00	580,00,00
<b>TOTAL</b>		<b>3975,89,84</b>	<b>3555,89,70</b>
<b>APPLICATION OF FUNDS</b>			
<b>Fixed Assets:</b>			
Gross Block	1.4	4771,67,05	4688,48,35
Less: Depreciation		2226,32,32	1957,93,41
Net Block		2545,34,73	2730,54,94
Capital Work-in-Progress	1.5	189,31,49	98,94,75
		2734,66,22	2829,49,69
<b>Investments</b>	1.6	43,91,00	31,50,00
<b>Current Assets, Loans and Advances:</b>			
Inventories	1.7	395,94,85	359,29,42
Sundry Debtors		360,62,92	340,18,32
Cash and Bank balances		367,91,48	138,67,82
Other Current Assets		44,67,73	13,16,37
Loans and Advances		384,99,82	158,62,06
		1554,16,80	1009,93,99
<b>Less: Current Liabilities &amp; Provisions:</b>			
Liabilities	1.8	214,11,50	195,15,87
Provisions		147,40,33	125,24,69
		361,51,83	320,40,56
<b>Net Current Assets</b>		<b>1192,64,97</b>	<b>689,53,43</b>
<b>Miscellaneous Expenditure</b>			
(To the extent not written off or adjusted)	1.9	4,67,65	5,36,58
<b>TOTAL</b>		<b>3975,89,84</b>	<b>3555,89,70</b>
<b>Notes on Accounts</b>	3		
<b>Additional information</b>	4		

Statement of Significant Accounting Policies and Schedules form part of Accounts.

In terms of our attached  
report of even date.

For and on behalf of  
Brahmayya & Co.  
Chartered Accountants

For and on behalf of Board of Directors

**V. SEETARAMAIAH**  
Partner

New Delhi  
12th June, 1998

**K.N. RAVINDRA**  
Company Secretary

**C. VENKATARAMANA**  
Director (Finance)

**S.N. JOHRI**  
Chairman-cum-  
Managing Director

## Profit and Loss Account for the year ended March 31, 1998

(In Thousand Rupees)

	Schedule	Year ended March 31, 1998	Year ended March 31, 1997
<b>INCOME:</b>			
Sales	2.1	1853,54,14	1768,86,18
Finished goods internally consumed & capitalised		75,10	—
Accretion/(Depletion) to stock of finished/ intermediary products/work-in-process	2.2	23,22,81	(5,09,94)
Other income	2.3	106,19,00	54,93,58
		<b>1983,71,05</b>	<b>1818,69,82</b>
<b>EXPENDITURE:</b>			
Raw materials consumed	2.4	202,43,54	227,24,86
Power & Fuel	2.5	333,02,81	297,71,57
Repairs & Maintenance	2.6	106,02,93	120,59,20
Other Manufacturing Expenses	2.7	54,74,27	47,35,25
Excise Duty		148,10,61	140,19,68
Employees' Remuneration & Benefits	2.8	116,39,26	89,12,12
Administrative Expenses	2.9	52,76,19	47,39,55
Selling and Distribution Expenses	2.10	36,19,42	36,01,80
Interest & Financing Charges	2.11	33,57,23	9,08,19
Provisions	2.12	2,28,31	(49,57)
Depreciation		271,99,72	265,81,54
Miscellaneous Expenditure written off		4,00	46,98
		<b>1357,58,29</b>	<b>1280,51,17</b>
<b>PROFIT FOR YEAR</b>		<b>626,12,76</b>	<b>538,18,65</b>
Less/(Add) : Prior Period Adjustments (Net)	2.13	70,24	(17,72,50)
<b>PROFIT BEFORE TAX</b>		<b>625,42,52</b>	<b>555,91,15</b>
Less : Provision for taxation		78,45,57	64,15,46
<b>PROFIT AFTER TAX</b>		<b>546,96,95</b>	<b>491,75,69</b>
Balance of profit brought forward from previous year		38,21,60	9,85,76
Amount available for appropriation		<b>585,18,55</b>	<b>501,61,45</b>
<b>APPROPRIATION :</b>			
Proposed dividend for current year		128,86,19	103,08,95
Tax on proposed dividend		12,88,62	10,30,90
Transfer from Capital Reserve		1	—
Transferred to General Reserve		400,00,00	350,00,00
Balance of profit carried forward to Balance Sheet		43,43,75	38,21,60
		<b>585,18,55</b>	<b>501,61,45</b>

Notes on Accounts

3

Additional information

4

Statement of Significant Accounting Policies and Schedules form part of Accounts.

In terms of our attached  
report of even date.

For and on behalf of Board of Directors

For and on behalf of  
Brahmayya & Co.  
Chartered Accountants

**V. SEETARAMAIAH**  
Partner

New Delhi  
12th June, 1998

**K.N. RAVINDRA**  
Company Secretary

**C. VENKATARAMANA**  
Director (Finance)

**S.N. JOHRI**  
Chairman-cum-  
Managing Director

## Schedules forming part of the Balance Sheet

(In Thousand Rupees)

	As at March 31, 1998	As at March 31, 1997
<b>Schedule 1.1</b>		
<b>SHARE CAPITAL</b>		
<b>Authorised:</b>		
130,00,00,000 Equity Shares of Rs. 10/- each	1300,00,00	1300,00,00
<b>Issued, Subscribed and Paid up:</b>		
128,86,19,200 Equity Shares of Rs. 10/- each fully paid up		
Out of these Shares, Government of India holds 112,29,99,270 shares	1288,61,92	1288,61,92
<b>TOTAL</b>	<b>1288,61,92</b>	<b>1288,61,92</b>
<b>Schedule 1.2</b>		
<b>RESERVES &amp; SURPLUS</b>		
<b>Capital Reserve:</b>		
Grants-in-aid received from Government of India:		
As per last Balance Sheet	60,00	60,00
Add: Received during the year	68,00	—
	128,00	60,00
Less: Transfer to Profit & Loss Account	1	—
	127,99	60,00
<b>General Reserve:</b>		
Balance as per Last Balance Sheet	1450,00,00	1100,00,00
Transfer from Profit & Loss Account	400,00,00	350,00,00
	1850,00,00	1450,00,00
<b>Utilised Investment Allowance Reserve</b>	198,46,18	198,46,18
<b>Balance in Profit &amp; Loss Account</b>	43,43,75	38,21,60
<b>TOTAL</b>	<b>2093,17,92</b>	<b>1687,27,78</b>
<b>Schedule 1.3</b>		
<b>LOAN FUNDS</b>		
<b>Secured Loans:</b>	—	—
<b>Unsecured Loans:</b>		
Medium term loans from Consortium of International Banks (Guaranteed by Government of India)		
Japanese yen 20 billion (Previous year 20 billion)	594,10,00	580,00,00
<b>TOTAL:</b>	<b>594,10,00</b>	<b>580,00,00</b>

Note : Repayable within one year : Japanese yen 20 billion (Rs. 594,10,00)  
 Repaid during the year : Nil  
 Repaid during previous year US\$112.255 million (Rs. 397,04,41) including prepayment of  
 US \$ 101.568 million (Rs. 359,19,00)

## Schedules forming part of the Balance Sheet

### Schedule 1.4

#### FIXED ASSETS

(In Thousand Rupees)

Particulars of Assets	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	As on 1.4.97	Additions	Sales/ Adjustments	As on 31.3.98	As on 1.4.97	For the Year	On sales/ adjustments	Upto 31.3.98	As on 31.3.98	As on 31.3.97
<b>A. PLANT, MINES AND OTHERS</b>										
Freehold land including development costs	30,03,79	-	-	30,03,79	-	-	-	-	30,03,79	30,03,79
Leasehold land including development costs	2,10,03	-	-	2,10,03	96,76	10,03	-	1,06,79	1,03,24	1,13,27
Buildings	1,53,67,78	15,15,08	(2,10,01)	1,66,72,85	61,71,38	7,70,94	(1,06,92)	68,35,40	98,37,45	91,96,40
Roads, bridges and culverts	25,15,96	81,77	1,36	25,99,09	6,81,00	36,91	-	7,17,91	18,81,18	18,34,96
Railway sidings	50,01,75	25	(1,35)	50,00,65	27,11,71	2,82,96	-	29,94,67	20,05,98	22,90,04
Water supply, drainage and sewerage	43,19,34	16,27	(1,16)	48,34,45	20,65,19	2,05,24	-	22,70,43	20,64,02	22,54,15
Power supply, distribution and lighting	1,57,32,40	7,21,99	(7,55)	1,64,46,84	77,96,19	8,44,03	-	86,40,22	78,06,62	79,36,21
Plant and machinery	40,37,61,36	50,08,32	(13,32,17)	40,74,42,51	17,05,48,34	2,41,92,12	(2,27,26)	19,45,13,20	21,29,29,31	23,32,13,02
Office equipments	8,03,08	3,96,56	(3,02)	11,96,62	3,73,79	1,19,62	(1,88)	4,91,53	7,05,09	4,29,29
Furniture and fittings	6,80,02	3,55,66	(29,18)	10,06,50	3,25,05	2,48,64	(16,01)	5,57,68	4,48,82	3,54,97
Vehicles	17,74,30	1,39,65	(29,59)	18,84,36	15,14,12	48,03	(25,46)	15,36,69	3,47,67	2,60,18
Miscellaneous equipments	20,96,56	9,84,65	(23,75)	29,77,46	7,82,78	1,33,17	(6,11)	9,09,84	20,67,62	13,13,78
<b>TOTAL</b>	<b>45,52,66,37</b>	<b>91,35,20</b>	<b>(16,26,42)</b>	<b>46,27,75,15</b>	<b>19,30,66,31</b>	<b>2,68,91,69</b>	<b>(3,83,64)</b>	<b>21,95,74,36</b>	<b>24,32,00,79</b>	<b>26,22,00,06</b>
<b>B. SOCIAL FACILITIES</b>										
Freehold land including development costs	2,99,62	-	-	2,99,62	-	-	-	-	2,99,62	2,99,62
Leasehold land including development costs	35,12	-	-	35,12	16,07	1,75	-	17,82	17,30	19,05
Buildings	95,66,30	5,54,08	3,50	101,23,88	14,33,80	1,65,99	(3,93)	15,95,86	85,28,02	81,32,50
Roads, bridges and culverts	12,41,66	32,08	(4,86)	12,68,88	2,18,36	19,71	-	2,38,07	10,30,81	10,23,30
Water supply, drainage and sewerage	10,07,69	71,86	8,66	10,88,21	4,18,01	40,80	-	4,58,81	6,29,40	5,89,68
Power supply, distribution and lighting	9,44,85	80,68	(1,95)	10,23,58	4,06,70	47,48	-	4,54,18	5,69,40	5,38,15
Office equipments	8,14	-	-	8,14	5,95	70	-	6,65	4,48	2,19
Furniture and fittings	1,03,14	48,48	-	1,51,62	73,43	28,30	-	1,11,22	37,80	29,71
Vehicles	61,15	9,81	(4,60)	66,36	48,43	4,16	(4,35)	48,24	18,12	12,72
Miscellaneous equipments	3,14,31	23,98	(9,80)	3,28,49	1,06,35	20,10	-	1,26,45	2,02,04	2,07,96
<b>TOTAL</b>	<b>1,35,81,98</b>	<b>8,18,97</b>	<b>(9,05)</b>	<b>143,91,90</b>	<b>27,27,10</b>	<b>3,39,14</b>	<b>(8,28)</b>	<b>30,57,96</b>	<b>113,33,94</b>	<b>1,08,54,88</b>
<b>Total for current year</b>	<b>46,88,48,35</b>	<b>99,54,17</b>	<b>(16,35,47)</b>	<b>47,71,67,05</b>	<b>19,57,93,41</b>	<b>2,72,30,83</b>	<b>(3,91,92)</b>	<b>22,26,32,32</b>	<b>25,45,34,73</b>	<b>27,30,54,94</b>
<b>Total for previous year</b>	<b>46,49,04,37</b>	<b>61,92,14</b>	<b>(22,48,16)</b>	<b>46,88,48,35</b>	<b>17,00,84,43</b>	<b>2,58,93,98</b>	<b>(1,85,00)</b>	<b>19,57,93,41</b>	<b>27,30,54,94</b>	<b>29,48,19,94</b>

#### Notes:

- Plant and machinery includes capitalisation of Rs. 1742,05,28 (Previous year Rs. 1736,78,65) (including capitalisation of Rs. 776,78 during the year, Rs. (-)20,47,31 previous year and decapitalisation of Rs. 250,15 during the year, previous year Nil) towards net exchange variation loss in accordance with Accounting policy No. A.7(4).
- Depreciation for the year includes Rs. 4,91 transferred to expenditure during construction period, pending capitalisation to Fixed Assets (previous year Nil) and Rs. 26,20 charged to prior period adjustment (Previous year (-) Rs. 687,56).
- Included in Gross Block above are the following assets laid on land not belonging to the Company :
  - Buildings - Rs. 95,77 (Previous year Rs. 95,96).
  - Roads, bridges and culverts - Rs. 295,32 (Previous year Rs. 295,32).
  - Water supply, drainage and sewerage - Rs. 12,71 (Previous year Rs. 12,71).
  - Power supply, distribution and lighting - Rs. 482,92 (Previous year Rs. 461,47).
  - Railway sidings - Rs. 491,92 (Previous year Rs. 491,81).

## Schedules forming part of the Balance Sheet

(In Thousand Rupees)

	As at March 31, 1998	As at March 31, 1997
<b>Schedule 1.5</b>		
<b>CAPITAL WORK-IN-PROGRESS</b>		
Construction and work-in-progress at cost	99,48,02	57,80,18
Advances to Government Departments & contractors (Unsecured, considered good)	14,58,21	12,40,25
Advances to suppliers for capital goods (Unsecured, considered good)	10,69,65	7,10,22
Stock of construction materials (at cost) (Including materials with contractors Rs. 2,03,79 Previous year Rs. 75,40)	29,50,71	12,16,36
Construction materials-in-transit (at cost)	21,35	-
Plant and machinery-in-transit (at cost)	3,96,95	3,41,09
Incidental Expenditure during construction (Schedule 1.5.1)	30,86,60	6,06,65
<b>TOTAL</b>	<b>189,31,49</b>	<b>98,94,75</b>

### Schedule 1.5.1

#### INCIDENTAL EXPENDITURE DURING CONSTRUCTION

Particulars	Balance as at April 1, 1997	Additions/ Adjustments during the year	Capitalisa- tion during the year	Balance As at March 31, 1998
Technical Knowhow expenses	2,10,45	11,17,98	-	13,28,43
Technical Consultancy expenses	3,01,86	8,52,71	60,55	10,94,02
Pre project expenses	94,34	1,02,00	-	1,96,34
Other expenses	-	4,62,90	-	4,62,90
Depreciation	-	4,91	-	4,91
<b>Total for current year</b>	<b>6,06,65</b>	<b>25,40,50</b>	<b>60,55</b>	<b>30,86,60</b>
<b>Total for previous year</b>	<b>-</b>	<b>6,06,65</b>	<b>-</b>	<b>6,06,65</b>

### Schedule 1.6

#### INVESTMENTS

	Face value per unit (Rs.)	As at March 31, 1998 Number	As at March 31, 1998 Book Value	As at March 31, 1997 Number	As at March 31, 1997 Book Value
<b>Trade :</b>					
<b>Long Term Investments: (Unquoted)</b>					
Equity shares in International Aluminium Products Ltd. Acquired during the year)	10	12,410,000	12,41,00	-	-
<b>Non-Trade :</b>					
9% (Tax free) Power Finance Corporation Bonds, 1988	1,000	125,000	12,50,00	125,000	12,50,00
9% (Tax free) Power Finance Corporation Bonds, 1990	1,000	70,000	7,00,00	70,000	7,00,00
9% (Tax free) Indian Railway Finance Corporation Bonds, 1990	1,000	120,000	12,00,00	120,000	12,00,00
<b>TOTAL</b>			<b>43,91,00</b>		<b>31,50,00</b>

## Schedules forming part of the Balance Sheet

(In Thousand Rupees)

	As at March 31, 1998	As at March 31, 1997
<b>Schedule 1.7</b>		
<b>CURRENT ASSETS, LOANS &amp; ADVANCES</b>		
<b>Current Assets :</b>		
<b>Inventories :</b>		
Raw materials at cost (Including in transit Rs. 18,64,33, Previous year Rs. 708,22)	34,30,56	33,21,83
Stock of Finished/Intermediary products/ Work-in-process		
-at lower of cost or net realisable value	112,49,90	89,27,09
Coal and fuel oil (including in transit Rs. 1,31,02, Previous year Rs. 23,29)	27,16,96	20,14,44
Stores, spares and others at cost (Including in transit Rs. 17,32,48, Previous year Rs. 13,92,96)	232,11,75	225,19,52
Less : Provision for non moving and unserviceable materials	10,14,32	8,53,46
	<u>221,97,43</u>	<u>216,66,06</u>
	395,94,85	359,29,42
<b>Sundry Debtors :</b> (Unsecured)		
Debts over six months		
Considered good	112,94,82	61,97,97
Considered doubtful	3,47,73	3,45,46
	<u>116,42,55</u>	<u>65,43,43</u>
Less : Provision for doubtful debts	3,47,73	3,45,46
	<u>112,94,82</u>	<u>61,97,97</u>
Other debts considered good	247,68,10	278,20,35
	360,62,92	340,18,32
<b>Cash and Bank Balances :</b>		
Cash on hand including imprest & stamps	10,04	7,96
Cheques and postal orders on hand	3,03,92	1,85,26
Balances with Scheduled Banks :		
In current Accounts	37,74,10	100,61,46
In Exchange Earner's Foreign Currency Account	301,73,34	31,31,45
In Term Deposits	30,00	—
In Certificates of Deposit	25,00,00	—
In Post Office Savings Accounts	8	16
Remittances in transit	—	4,81,53
	<u>367,91,48</u>	<u>138,67,82</u>
<b>Other Current Assets :</b>		
Interest accrued on :		
Investments	83,28	83,28
Debtors	8,86,62	1,63,68
Bank deposits and others	8,56,45	5,29,93
Deposits with Financial Institutions	16,72,09	1,19
Loans to Employees	6,98,06	5,38,29
Income accrued on certificate of Deposits	2,71,23	—
	<u>44,67,73</u>	<u>13,16,37</u>
<b>Sub total of Current Assets</b>	<b>1169,16,98</b>	<b>851,31,93</b>

## Schedules forming part of the Balance Sheet

(In Thousand Rupees)

	As at March 31, 1998	As at March 31, 1997
<b>Schedule 1.7 (Contd.)</b>		
<b>Loans and Advances:</b>		
(Unsecured, considered good unless otherwise stated)		
Loans to employees (Secured Rs. 28,25,71 Previous Year Rs. 20,00,01)	31,47,05	25,77,43
Stores on loan basis	60,57	58,84
Loans to Public Sector Companies (Including Interest accrued and due Rs. 157,50 Previous year Rs. 132,49)	6,57,50	6,32,49
Deposits with Financial Institutions :		
Industrial Development Bank of India	125,00,00	—
Industrial Finance Corporation of India	85,00,00	—
Industrial Credit and Investment Corporation of India	35,00,00	—
ICICI Securities and Finance Company of India Limited	—	30,00,00
	245,00,00	30,00,00
Advances to Employees	2,01,78	1,28,14
Advance Income Tax paid (Net of Provision of Rs. 78,82,00)	7,02,57	—
Income Tax refund receivable	40,62	1,75,04
Advances to others :		
Considered good	6,98,89	7,07,55
Considered doubtful	2,54,71	2,74,31
	9,53,60	9,81,86
Less : Provision for doubtful advances	2,54,71	2,74,31
	6,98,89	7,07,55
Prepaid Expenses	2,54,42	2,35,64
Claims Recoverable : Considered good	57,58,42	61,25,65
Considered doubtful	5,70,11	6,17,23
	63,28,53	67,42,88
Less : Provisions for doubtful claims	5,70,11	6,17,23
	57,58,42	61,25,65
<b>Deposits with :</b>		
Customs Authorities	30,25	80,68
Port Authorities	23,90	27,36
Sales Tax Authorities	18,25,94	18,58,65
Excise Authorities	1,81,59	1,37,42
Other Government Departments	77,20	68,31
Others	3,39,12	48,86
	24,78,00	22,21,28
Sub total of Loans and Advances	384,99,82	1,58,62,06
<b>TOTAL</b>	<b>1554,16,80</b>	<b>1009,93,99</b>

Note : Loans due from Directors as on 31.3.98 - Rs. 17, maximum amount due during the year Rs. 1,70)  
(Previous Year - Rs. 1,70, maximum amount due Rs. 2,16)



## Schedules forming part of the Balance Sheet

(In Thousand Rupees)

	As at March 31, 1998	As at March 31, 1997
<b>Schedule 1.8</b>		
<b>CURRENT LIABILITIES &amp; PROVISIONS</b>		
<b>Current Liabilities :</b>		
Sundry creditors	90,22,52	84,71,32
Other liabilities (Including advances from customers of Rs. 7,13,70, previous year Rs. 15,83,11)	94,11,46	86,13,14
Security Deposits	29,65,55	24,03,46
Interest accrued but not due on loans	11,97	27,95
	<u>214,11,50</u>	<u>195,15,87</u>
<b>Provisions :</b>		
For taxation (previous year net of advance payment of Rs. 58,51,84)	1,90	7,43,56
For proposed dividend	128,86,19	103,08,95
For tax on proposed dividend	12,88,62	10,30,90
For leave encashment and post retirement medical benefits	5,63,62	4,41,28
	<u>147,40,33</u>	<u>125,24,69</u>
<b>TOTAL</b>	<u><b>361,51,83</b></u>	<u><b>320,40,56</b></u>

**Schedule 1.9**  
**MISCELLANEOUS EXPENDITURE**  
**(to the extent not written off or adjusted)**

Particulars	Balance as at April 1, 1997	Additions/ Adjustments during the year	Written off during the year	Balance As at March 31, 1998
Interest and Penalties on Sales Tax	4,26,73	—	—	4,26,73
Expenditure on un-successful projects	8,00	—	4,00	4,00
Expenditure on new projects	19,40	17,52	—	36,92
Expenditure on Expansion Projects	82,45	(82,45)	—	—
Total for current year	<b>5,36,58</b>	<b>(64,93)</b>	<b>4,00</b>	<b>4,67,65</b>
Total for previous year	<b>7,64,93</b>	<b>(1,81,37)</b>	<b>46,98</b>	<b>5,36,58</b>

## Schedules forming part of the Profit & Loss Account

(In Thousand Rupees)

	Year ended March 31, 1998	Year ended March 31, 1997
<b>Schedule 2.1</b>		
<b>SALES</b>		
<b>Export :</b>		
Calcined Alumina	344,16,18	304,29,08
Aluminium Standard and Sow Ingots	314,89,43	316,84,22
Aluminium Billets	20,42,06	16,72,29
	<u>679,47,67</u>	<u>637,85,59</u>
<b>Domestic :</b>		
Alumina Hydrate	4,40,72	3,16,04
Calcined Alumina	37,97	3,90,17
Aluminium Standard and Sow Ingots	712,72,49	561,61,94
Aluminium Wire rods	352,31,81	411,89,54
Aluminium Billets	45,20,12	74,68,88
Electricity	59,03,36	75,74,02
	<u>1174,06,47</u>	<u>1131,00,59</u>
<b>TOTAL</b>	<b><u>1853,54,14</u></b>	<b><u>1768,86,18</u></b>

### Schedule 2.2

#### ACCRETION/DEPLETION(-) TO FINISHED/WORK-IN-PROCESS/INTERMEDIARY PRODUCTS

	Opening stock	Closing stock	Accretion/ (-) Depletion
Bauxite	6,15,48 (3,62,47)	4,24,75 (6,15,48)	-1,90,73 (2,53,01)
Alumina Hydrate	31 (6,00)	15 (31)	-16 (-5,69)
Calcined Alumina	21,09,94 (32,39,61)	22,84,03 (21,09,94)	1,74,09 (-11,29,67)
Aluminium Standard and Sow Ingots	1,27,14 (6,41,50)	8,00,22 (1,27,14)	6,73,08 (-5,14,36)
Aluminium Wire rods	1,12,89 (19,32)	40,27 (1,12,89)	-72,62 (93,57)
Aluminium Billets	18,25 (2,01,38)	7,30,34 (18,25)	7,12,09 (-1,83,13)
Anodes	9,15,22 (7,76,75)	14,86,58 (9,15,22)	5,71,36 (1,38,47)
Reprocessable Anode Butts	21,60,05 (15,91,63)	28,58,03 (21,60,05)	6,97,98 (5,68,42)
Aluminium Scrap	2,33,20 (53,11)	2,71,91 (2,33,20)	38,71 (1,80,09)
Work-in-Process	26,34,61 (25,45,26)	23,53,62 (26,34,61)	-2,80,99 (89,35)
<b>TOTAL</b>	<b>89,27,09 (94,37,03)</b>	<b>112,49,90 (89,27,09)</b>	<b>23,22,81 (-5,09,94)</b>

(Figures in bracket represents previous year)

## Schedules forming part of the Profit & Loss Account

(In Thousand Rupees)

	Year ended March 31, 1998	Year ended March 31, 1997
<b>Schedule 2.3</b>		
<b>OTHER INCOME</b>		
Interest from Investments	2,83,50	2,36,43
Interest from debtors	19,15,85	13,13,93
Interest from Bank deposits and others	8,04,90	2,70,44
Income on Certificates of Deposit	4,02,68	—
Interest from deposits with Financial Institutions	27,63,71	2,65,76
Interest from loans to employees	1,87,90	1,46,44
Interest from loans to Public Sector companies	70,00	85,52
Tax deducted at source on Interest from debtors Rs. 66,00 (Previous year Rs. 51,84), on interest from deposits with Financial Institutions deposits Rs. 2,18,58 (previous year Nil)	—	—
Exchange Variation Gain	18,20,49	8,25,13
Premium on Sale of Special Import licences	7,47,24	10,47,79
Receipt for freight, handling etc. from customers	7,78,64	4,20,09
Sale of scrap and profit on sale of fixed assets	2,10,47	2,52,87
Receipt for rent, electricity & water charges	1,25,02	1,08,81
Miscellaneous Income (Including compensation for breach of contract Rs. 1,62,42, - previous year, write back of excess provisions of Rs. 252,27)	5,08,60	5,20,37
<b>TOTAL</b>	<b>106,19,00</b>	<b>54,93,58</b>

### Schedule 2.4

#### RAW MATERIALS CONSUMED

	Year ended March 31, 1998		Year ended March 31, 1997	
	Quantity (MT)	Value	Quantity (MT)	Value
Caustic soda	57,957	44,78,22	58,205	66,01,09
C. P. Coke	97,351	88,14,08	86,465	62,90,66
C. T. Pitch	21,392	21,23,81	19,812	18,30,91
Aluminium fluoride	6,168	22,88,76	6,107	21,00,69
Lime	21,908	3,63,90	27,493	4,63,91
Crystal growth modifier	201	2,21,59	148	1,59,96
Purchased anodes	(Nos) 3810	12,33,07	(Nos) 12,523	43,87,83
Others	—	7,20,11	—	8,89,81
<b>TOTAL</b>		<b>202,43,54</b>		<b>227,24,86</b>

## Schedules forming part of the Profit & Loss Account

(In Thousand Rupees)

	Year ended March 31, 1998	Year ended March 31, 1997
<b>Schedule 2.5</b>		
<b>POWER &amp; FUEL</b>		
Coal consumed	210,34,36	182,00,52
Fuel oil consumed	71,16,96	66,03,52
Duty on self generation	44,66,83	44,44,50
Power Transmission charges	2,15,05	—
Purchased power	4,69,61	5,23,03
<b>TOTAL</b>	<b>333,02,81</b>	<b>297,71,57</b>
<b>Schedule 2.6</b>		
<b>REPAIRS &amp; MAINTENANCE</b>		
Buildings	5,94,20	4,69,36
Machinery	91,97,08	111,62,12
Others	8,11,65	4,27,72
<b>TOTAL</b>	<b>106,02,93</b>	<b>120,59,20</b>
<b>Schedule 2.7</b>		
<b>OTHER MANUFACTURING EXPENSES</b>		
Royalty & Cess	10,86,41	8,69,72
Freight inwards	21,42,14	18,54,76
Consumption of stores	22,45,72	20,10,77
<b>TOTAL</b>	<b>54,74,27</b>	<b>47,35,25</b>
<b>Schedule 2.8</b>		
<b>EMPLOYEES' REMUNERATION AND BENEFITS</b>		
Salaries, wages & bonus	83,25,61	66,70,18
Contribution to Provident & Pension funds	5,96,71	4,44,41
Provision for leave encashment and post retirement medical benefits	1,22,34	83,51
Staff welfare expenses	24,97,53	16,42,07
Gratuity	97,07	71,95
<b>TOTAL</b>	<b>116,39,26</b>	<b>89,12,12</b>

## Schedules forming part of the Profit & Loss Account

(In Thousand Rupees)

	Year ended March 31, 1998	Year ended March 31, 1997
<b>Schedule 2.9</b>		
<b>ADMINISTRATIVE EXPENSES</b>		
Rent for office and guest house	1,03,23	1,26,18
Rent for leased accommodation for employees	43,67	40,75
Rates and taxes	74,75	78,23
Insurance	1,94,08	2,40,79
Auditors' Remuneration :*		
Statutory Audit fee	2,25	3,75
Statutory Audit expenses	1,10	10,09
Tax audit fees, expenses and certification charges	1,00	1,41
Cost audit Fee & Expenses	1,20	51
Repairs & Maintenance - Buildings (Township)	1,97,58	2,00,73
Repairs & Maintenance - others	1,51,60	2,77,80
Vehicle operating expenses	79,27	1,68,32
Consumption of stores	77,31	87,28
Recruitment expenses	26,59	50,06
Bank charges	1,33,52	1,37,12
Legal expenses	46,21	37,41
Printing & Stationery	1,19,05	1,30,88
EDP expenses	75,54	80,77
Postage, telegram, telex & telephone	3,35,81	3,10,19
Advertisement & publicity	2,08,60	1,64,14
Entertainment	12,11	12,38
Electricity & water charges	2,33,26	1,34,99
Travelling Expenses	5,26,74	4,36,36
Demurrage	17,17	16,55
Directors' sitting fees	13	21
Hire charges for machinery and vehicles	2,19,62	1,94,61
Donations	17,14	2,36
Management development & training	2,27,55	1,88,29
Plantation and Horticulture	74,77	63,57
Environment and Pollution Control	21,84	46,72
Peripheral development expenses	1,03,43	62,58
Maintenance of guest houses	22,88	18,53
Technical assistance fees and expenses	4,36,59	1,44,78
Miscellaneous consultancy	59,89	54,41
CISF and other security expenses	8,82,35	6,61,83
Fire fighting services	1,01,24	88,89
Loss on sale of assets and shortages	1,03,52	7,95
Claims, receivables and debts written off	66,28	2,11,69
Research & development expenses	30,91	21,84
Other miscellaneous expenses	2,46,41	2,24,60
<b>TOTAL</b>	<b>52,76,19</b>	<b>47,39,55</b>

\* Statutory Audit expenses for the year is net of excess provision of Rs. 2,90 of previous year.

Previous year includes Statutory audit fees of Rs. 1,50, expenses Rs. 2,59 and other remuneration of Rs. 35 for earlier year.

## Schedules forming part of the Profit & Loss Account

(In Thousand Rupees)

	Year ended March 31, 1998	Year ended March 31, 1997
<b>Schedule 2.10</b>		
<b>SELLING AND DISTRIBUTION EXPENSES</b>		
Packing and forwarding	1,62,36	1,07,14
Freight outwards and handling	25,99,51	25,04,87
Cash discount	4,58,57	4,52,45
Commission to selling agents	9,54	4,02
Demurrage	11,27	12,65
Bank charges	51,42	1,67,93
Others	3,26,75	3,52,74
<b>TOTAL</b>	<b>36,19,42</b>	<b>36,01,80</b>
<b>Schedule 2.11</b>		
<b>INTEREST AND FINANCING CHARGES</b>		
Interest on medium term foreign loans	21,45,03	26,02,67
Exchange variation	6,31,92	(27,24,24)
Guarantee fee on foreign loans	5,80,28	10,29,76
<b>TOTAL</b>	<b>33,57,23</b>	<b>9,08,19</b>
<b>Schedule 2.12</b>		
<b>PROVISIONS</b>		
Non moving stores & spares	1,03,36	1,66,18
Unserviceable Materials	57,50	10,04
Doubtful debts	2,27	(42,78)
Doubtful advances	(19,61)	25,17
Doubtful insurance claims	(11,56)	(1,96,03)
Sundry claims	96,35	(12,15)
<b>TOTAL</b>	<b>2,28,31</b>	<b>(49,57)</b>
<b>Schedule 2.13</b>		
<b>PRIOR PERIOD ADJUSTMENTS (NET)</b>		
Sales	—	1,79
Other Income	—	(5,36,63)
Accretion to work-in-process	—	(7,00,12)
Raw materials consumed	30,52	70,57
Power & fuel	(21,26)	2,15,53
Repairs & maintenance	91,18	(8,73,79)
Other Manufacturing expenses	—	(11,35)
Employees' Remuneration & Benefits	12,91	3,85,69
Administrative Expenses	49,90	23,24
Selling & distribution expenses	12,69	3,40,13
Provisions written back	(1,31,90)	—
Depreciation	26,20	(6,87,56)
<b>TOTAL</b>	<b>70,24</b>	<b>(17,72,50)</b>

Figures in brackets represent credits.

## Schedules forming part of the Accounts

### SCHEDULE – 3

#### NOTES FORMING PART OF THE ACCOUNTS FOR THE YEAR ENDED 31ST MARCH 1998.

##### 1. Balance Sheet:

##### 1.1 Land :

- a) Value of Freehold land includes advance payments made so far for acquisition through State Government. Land acquisition proceedings are still in progress and it is possible that further claims may be made upon the Company. Relevant title deeds for the acquired land except a few have been executed.
- b) Value of Leasehold land includes land on mining lease for which lease documents have been executed and possession taken.
- c) Land taken by the Company includes Government land given on lease basis. Though the Company has been permitted by the Government to use such land, the formalities for legal transfer are yet to be completed. The value of leasehold land represents amount deposited with the State Government and estimated liabilities provided for.

1.2 The estimated amount of contracts to be executed on capital account and not provided for is Rs.212.04 crore (previous year Rs.75.27 crore).

1.3 Liabilities towards Sales Tax on works contracts amounting to Rs.18.75 crore (previous year Rs.20.42 crore) have been provided for and considered for capitalisation, although the levy of such tax is disputed by the Company and appeals filed in different courts are pending for disposal. Interest/penalty amounting to Rs.4.27 crore (previous year Rs.4.27 crore) imposed by Sales tax authorities has been shown as "Miscellaneous Expenditure (to the extent not written off/adjusted)" (Schedule No.1.9) pending adjustment based on decisions of Orissa High Court/ Supreme Court.

##### 1.4 Contingent liabilities not provided for :

	Year ended 31st March'98	Year ended 31st March'97 (Rs. in crore)
i) Claims not acknowledged as debts/disputed demands:		
a) Sales Tax on:		
Works contracts under dispute	8.87	48.08
Sale of products	124.47	50.87
b) Excise Duty on fabrication works	6.10	6.09

	Year ended 31st March'98	Year ended 31st March'97 (Rs. in crore)
c) Customs Duty on design/ engineering charges, steel billets & other claims	16.97	17.32
d) Claims of contractors & suppliers	26.64	18.47
e) Land acquisition & interest thereon	14.00	11.88
f) GRIDCO for energy bill	0.25	0.25
g) Contribution to Mineral Exploration Fund	1.28	1.28
ii) Excise Duty for non submission of :		
a) Proof of export	16.61	16.52
b) Other documents	39.76	3.40
iii) Unrealised bank guarantees due to court injunctions	1.13	1.13
iv) Outstanding letters of credit, guarantees and counter guarantees	43.32	56.24
<b>TOTAL</b>	<b>299.40</b>	<b>231.53</b>

Besides the above, few more cases in respect of escalation and extra claims for works contracts have been referred to arbitration and monetary value of such claims is not ascertainable at this stage. Amount paid under protest against some of the above claims amounting to Rs.20.41 crore (Previous year Rs.20.33 crore) is shown under Loans and Advances.

1.5 Liability towards Excise Duty is accounted for at the time of clearance of the goods from the factory. Accordingly, no provision has been made in the accounts towards estimated Excise Duty payable on the stocks of finished goods held at the factory as on 31.3.98 amounting to Rs.567.09 lakh (previous year as on 31.3.97 Rs.86.92 lakh). This method of accounting has no effect on the Profit and Loss Account.

1.6 Bharat Gold Mines Limited (BGML) was paid a working capital loan of Rs. 5 crore during May 1989, repayable in six months. Although BGML has been referred to BIFR under Sick Industrial Companies (Special Provisions) Act, 1985 and default was committed by BGML in repayment of principal overdue, the same together with interest accrued of Rs.157.50 lakh has been considered good in view of BGML being a Government Company and the assurance letter from Government of India stating that in the event of default by BGML, Government would pay from the budgetary support. However, BGML have cleared outstanding interest up to 31st Dec'95 as of date.

## Schedules forming part of the Accounts

- 1.7 The Company has explained to Excise & Customs Authorities that the transit and handling losses of exportable alumina occurred during the year were within 1.5% of the quantity handled considered as normal. The Company has not received any show cause notice from the Excise Authorities. Accordingly, no provision is considered necessary towards probable excise duty liability amounting to Rs.152 lakhs (previous year Rs.126 lakhs ) that may arise in the event of the Excise Authorities not accepting the Company's plea and levying duty on such shortages.
2. **Profit and Loss Account:**
  - 2.1 As stated in Accounting Policy No.1.2 depreciation was charged in respect of Main Plant and Machinery and related Factory Buildings and Storage Godowns at the rate of 5% upto 31.3.1993, based on the useful life of those assets, which was lower than the rate prescribed under Schedule XIV of the Companies Act. With effect from 1.4.1993, after the introduction of the concept of "Continuous Process Plant", the useful life of those assets was revised to 18 years. Though, the Company could have written off depreciation on those assets with effect from 1.4.1993 at 2.62% in terms of circular No.14/93 dated 20.12.93 of the Company Law Board, the Company has been charging depreciation at a higher rate of 5.42% in order to recoup part of short fall in depreciation written off upto 31.3.1993 under Section 205(2) of the Companies Act. Accordingly, had the depreciation been calculated on all the assets by applying the rates specified in Schedule XIV of the Companies Act, read with the circular referred to above, the charge for the year would have been lower by Rs.98.88 crores (previous year Rs.96.44 crores). The cumulative shortfall in depreciation under Section 205(2) of the Companies Act upto 31.3.1998 after setting off of the depreciation excess written off after 1.4.1993 is Rs.552.21 crores (previous year Rs.651.09 crores). The previous year's figures shown under the above two heads have been recomputed in accordance with the foregoing.
  - 2.2 Pending finalisation of revision of pay scales of IDA employees with effect from 01.01.1997, a provision of Rs.1046.00 lakhs (previous year Rs.376.00 lakhs and cumulative provision of Rs.1422.00 lakhs ) has been made towards likely liability on account of such revision.
  - 2.3 The Company has introduced its own "Employees Pension Scheme" with effect from 1.4.95 which has been recognised by Income Tax Department. In terms of para 39 of Employees Pension Scheme'95 (EPS'95), the Company has sought exemption from operation of EPS'95 , which is awaited. Pending grant of recognition to Company's Pension scheme, the amounts otherwise payable to RPFC under EPS'95, amounting to Rs.589.07 lakh from 1995-96 and 1997-98 has been retained with the Nalco Employees Provident Fund Trust.
  - 2.4 In respect of self generation of power, the cost under "Power and Fuel" consists of consumption of coal and fuel oil but does not include other expenses of generation and consumption of certain other materials, which have been included under the primary heads of account, the extent of which is not readily ascertainable.
  - 2.5 Interest and financing charges reflected in Schedule No. 2.11 is exclusive of Rs.310.62 lakh (Previous year Rs. 390.77 lakh) being the interest charged to the primary heads of account, including Prior Period Adjustments of Rs. 20.11 lakh, previous year Rs.123.31 lakh.
  - 2.6 Provision for Taxation includes Rs.7882.00 lakh towards income tax (previous year Rs.6593.50 lakh towards Minimum Alternate Tax (MAT)), Rs.1.90 lakh (previous year Rs.1.79 lakh) towards Wealth Tax and is net of excess provision made in earlier years toward Income tax of Rs.38.33 lakh (previous year Rs.179.83 lakh).
- 3 Previous year's figures have been regrouped/ rearranged wherever necessary to make them comparable with those of current year.



## Schedules forming part of the Accounts

### SCHEDULE-4

#### ADDITIONAL INFORMATION FORMING PART OF ACCOUNTS FOR THE YEAR ENDED 31ST MARCH, 1998

	Current Year (Rs. in Lakhs)	Previous Year (Rs. in Lakhs)
<b>1. Whole-time Directors' Remuneration:</b>		
Salaries (Previous year including arrear salary)	18.74	20.05
Company's contribution to Provident Funds & Gratuity scheme	1.55	1.67
Leave travel concession	1.08	0.35
Medical benefits	0.76	1.24
Others Benefits	8.37	5.47
<b>TOTAL</b>	<b>30.50</b>	<b>28.78</b>
(In addition each whole time director is allowed the use of Company's car for private purposes up to 750 kms per month on payment of Rs. 4,800/- per annum)		
<b>2. Expenditure incurred in Foreign Currency on cash basis:</b>		
Interest on loans	2,161.26	3,074.15
Continued technical assistance to Aluminium Pechiney	270.98	192.14
Payments to consultants/supervision charges	886.73	17.96
Travelling expenses	58.16	47.21
Agency commission on sales	9.54	4.02
Books, periodicals, advertisement, bank charges etc.	25.84	22.04
<b>TOTAL</b>	<b>3,412.51</b>	<b>3,357.52</b>
<b>3. Earnings in Foreign Currency on cash basis :</b>		
Export of goods	65,646.75	62,468.22
Interest on bank deposits	403.57	252.95
Despatch money	47.19	58.90
<b>TOTAL</b>	<b>66,097.51</b>	<b>62,780.07</b>
<b>4. Value of Imports calculated on CIF basis :</b>		
Raw materials	5,132.60	10,067.74
Components, spare parts and construction materials	2,662.80	3,335.69
Capital goods	3,066.56	973.01
<b>TOTAL</b>	<b>10,861.96</b>	<b>14,376.44</b>

#### 5. Value of Raw materials, stores, spares & components consumed during the year :

	Current Year		Previous Year	
	Value	%	Value	%
<b>a) Raw materials :</b>				
Imported	5,817.00	28.74	10408.51	45.80
Indigenous	14426.54	71.26	12316.35	54.20
<b>TOTAL</b>	<b>20243.54</b>	<b>100.00</b>	<b>22724.86</b>	<b>100.00</b>
<b>b) Stores, spares and components :</b>				
Imported	3800.77	32.13	6279.96	47.06
Indigenous	8026.88	67.87	7064.64	52.94
<b>TOTAL</b>	<b>11827.65</b>	<b>100.00</b>	<b>13344.60</b>	<b>100.00</b>

## Schedules forming part of the Accounts

### 6. Licenced Capacity, Installed Capacity and Actual Production/Generation :

Products	Licenced Capacity	Installed Capacity		Actual Production/Generation	
		Current Year (In Tonnes)	Previous Year (In Tonnes)	Current Year (In Tonnes)	Previous Year (In Tonnes)
Bauxite	Not Applicable	24,00,000	24,00,000	26,61,557	25,58,002
Aluminium Hydrate	Not Applicable	8,00,000	8,00,000	8,88,000	8,43,240
Calcined Alumina	Not Applicable	8,00,000	8,00,000	8,83,300	8,40,062
Aluminium Standard Ingots	Not Applicable	1,00,000	88,000	75,246	83,384
Aluminium Sow Ingots	Not Applicable	—	—	70,869	52,253
Aluminium Wire rods	Not Applicable	1,00,000	1,00,000	43,248	55,735
Aluminium Billets	Not Applicable	30,000	30,000	10,529	12,451
Electricity	Not Applicable	720MW	720MW	3,902 MU	4,187 MU

Note : 1. Installed Capacities are as per project report.

2. Bauxite of 26,91,824 MT (previous Year 25,17,150 MT), Alumina Hydrate of 8,83,460MT (previous year 840,062 MT), Calcined Alumina of 3,92,478 MT (previous year 3,99,567 MT) and Electricity of 3,244 MU (previous year 3,284 MU) have been consumed internally during the year.

3. The Aluminium production does not include production of 182 MT of bus bar and 88 MT of Anode stem produced for internal consumption.

### 7. Stock and Sales :

Products	Opening Stock		Sales		Closing Stock	
	Quantity In Tonnes	Value Rs. In lakhs	Quantity In Tonnes	Value Rs. in lakhs	Quantity In Tonnes	Value Rs. In lakhs
Bauxite	442,796 (421,480)	615.48 (362.47)	— —	— —	404,534 (442,796)	424.75 (615.48)
Alumina Hydrate	11 (216)	0.31 (6.00)	4,771 (3,383)	440.72 (316.04)	6 (11)	0.15 (0.31)
Calcined Alumina	58,055 (93,073)	2,109.94 (3,239.61)	4,80,149 (468,654)	34,454.15 (30,819.25)	67,131 (58,055)	2,284.03 (2,109.94)
Aluminium Standard & sow ingots	390 (2183)	127.14 (641.50)	1,44,024 (137,410)	1,02,761.92 (87,846.16)	2,397 (390)	800.22 (127.14)
Aluminium Wire rods	282 (64)	112.89 (19.32)	43,412 (55,504)	35,231.81 (41,189.54)	116 (282)	40.27 (112.89)
Aluminium Billets	48 (561)	18.25 (201.38)	8,699 (12,964)	6,562.18 (9,141.17)	1,878 (48)	730.34 (18.25)
Electricity (in MU net)	— —	— —	658 (903)	5,903.36 (7,574.02)	— —	— —

Note : 1. Figures in brackets pertain to those of previous year.

2. The closing stock of Aluminium ingots includes 1659MT of Sow ingots (previous year 301MT)

3. Figures of closing stock are after adjustment of internal transfers and shortages of Bauxite 7995 MT (previous year 19,536MT), Calcined Alumina 1597 MT (Previous year 6,859 MT, excess in Alumina Hydrate 226 MT (Previous year Nil)).

### 8. Social Amenities :

(Rs. in lakhs)

Expenses	Township	Education	Medical	Social/Cultural	Canteen	Total
Payments to employees	117.10	—	347.93	2.37	212.49	679.89
Welfare expenses	—	364.93	231.96	138.59	354.45	1,089.93
Materials consumed	49.05	—	111.01	—	5.87	165.93
Repairs & maintenance	408.16	6.66	21.28	7.07	1.70	444.87
Power, fuel & water charges	235.44	—	0.43	—	0.67	236.54
Depreciation	278.73	10.33	8.01	9.61	6.44	313.12
<b>TOTAL</b>	<b>1,088.48</b>	<b>381.92</b>	<b>720.62</b>	<b>157.64</b>	<b>581.62</b>	<b>2,930.28</b>
Less : Recoveries	113.41	—	5.80	—	—	119.21
<b>Net Expenditure</b>	<b>975.07</b>	<b>381.92</b>	<b>714.82</b>	<b>157.64</b>	<b>581.62</b>	<b>2,811.07</b>
For previous year	984.71	261.51	479.55	58.14	214.36	1,998.27

## Schedules forming part of the Accounts

### 9. Balance Sheet Abstract and Company's General Profile

**i) Registration Details :**

Registration No	1500920
State Code	15
Balance Sheet Date	31st March 1998

(In thousand rupees)

	Current Year	Previous Year
<b>ii) Capital raised during the year :</b>		
Public Issue	Nil	Nil
Right Issue	Nil	Nil
Bonus Issue	Nil	Nil
Private Issue	Nil	Nil
<b>iii) Position of mobilisation and deployment of Funds :</b>		
Total Liabilities	3975,89,84	3555,89,70
Total Assets	3975,89,84	3555,89,70
<b>Sources of Funds :</b>		
Paid-up Capital	1288,61,92	1288,61,92
Reserves & Surplus	2093,17,92	1687,27,78
Secured Loans	Nil	Nil
Unsecured Loans	594,10,00	580,00,00
<b>Application of Funds :</b>		
Net Fixed Assets	2734,66,22	2829,49,69
Investments	43,91,00	31,50,00
Net Current Assets	1192,64,97	689,53,43
Misc. Expenditure	4,67,65	5,36,58
Accumulated losses	Nil	Nil
<b>iv) Performance of the Company :</b>		
Turnover	1853,54,14	1768,86,18
Total Expenditure	1358,28,53	1262,78,67
Profit/Loss before Tax	625,42,52	555,91,15
Profit/Loss after Tax	546,96,95	491,75,69
Earning per Share (In Rupees)	4.24	3.82
Dividend rate (%)	10.00	8.00

**v) Generic Name of Principal products/services : (Disclosed as per Licence)**

Item Code No.	335000000
Product	Aluminium Ingots

In terms of our attached  
report of even date.

For and on behalf of  
Brahmayya & Co.  
Chartered Accountants

For and on behalf of Board of Directors

**V. SEETARAMAIAH**  
Partner

New Delhi  
12th June, 1998

**K.N. RAVINDRA**  
Company Secretary

**C. VENKATARAMANA**  
Director (Finance)

**S.N. JOHRI**  
Chairman-cum-  
Managing Director

## Cash Flow Statement for the Year ended March 31st, 1998

(Rupees in Crore)

	Year ended March 31st, 1998	Year ended March 31st, 1997
<b>A. Cash Flow from Operating Activities</b>		
Net Profit before tax and Extraordinary Income	625.43	555.91
Adjustments for :		
Depreciation	272.26	258.94
Foreign Exchange loss/(gain) on loans	6.32	(27.39)
Foreign Exchange loss on working capital	0.01	0.15
Interest & Financing Charges	27.25	36.33
Miscellaneous Expenses written off	0.04	0.47
Provisions (Net)	3.50	3.91
Claims/Recoverables written off	0.66	2.12
Interest Income	(64.29)	(23.18)
Loss/(Profit) on sale of assets (Net)	0.04	0.04
	<u>245.79</u>	<u>251.39</u>
Operating Profit before working Capital Changes	871.22	807.30
Adjustments for :		
Inventories	(38.26)	(20.93)
Trade & other receivables	(27.48)	(41.85)
Trade Payables	22.06	9.79
	<u>(43.68)</u>	<u>(52.99)</u>
Cash generated from Operations	827.54	754.31
Adjustments for :		
Interest & financing charges paid	(25.14)	(43.93)
Direct taxes paid	(91.56)	(58.52)
	<u>(116.70)</u>	<u>(102.45)</u>
Cash flow before Extraordinary Items	710.84	651.86
Extraordinary Items	-	-
<b>Net Cash from operating activities</b>	<b>710.84</b>	<b>651.86</b>
<b>B. Cash Flow from Investing Activities :</b>		
Purchase of Fixed Assets	(174.78)	(70.59)
Exchange loss on repayments of loans (Capital)	-	(13.13)
Sale/write off of Fixed Assets	0.53	0.17
Purchase of Investments	(12.41)	(12.00)
Deposits with Financial Institutions	(215.00)	(30.00)
Sale of Investments*	-	1.00
Interest received	32.77	25.53
<b>Net cash used in investing activities</b>	<b>(368.89)</b>	<b>(99.02)</b>
*at face value		

## Cash Flow Statement for the Year ended March 31st, 1998

(Rupees in Crore)

	Year ended March 31st, 1998	Year ended March 31st, 1997
<b>C. Cash Flow from Financing Activities :</b>		
Proceeds from issue of Share Capital	—	—
Proceeds from long term borrowing	—	(397.04)
Grants-in-aid received from Government of India	0.68	—
Dividends including dividend taxpaid	(113.40)	(45.10)
<b>Net cash used in Financing activities</b>	<b>(112.72)</b>	<b>(442.14)</b>
<b>D. Net Changes in Cash &amp; Cash equivalents (A+B+C)</b>	<b>229.23</b>	<b>110.70</b>
<b>E. Cash &amp; Cash equivalents - Opening Balance</b>	<b>138.58</b>	<b>27.98</b>
<b>F. Cash &amp; Cash equivalents - Closing Balance</b>	<b>367.81</b>	<b>138.68</b>

Note : a) Figures in brackets are cash outflows/incomes as the case may be.  
b) Working Capital borrowing facility of Rs. 48 crores (previous year Rs. 48 crores) have not been availed throughout the current and previous years since the Company could manage with its own internal resources.

For and on behalf of Board of Directors

New Delhi  
12th June, 1998

**K.N. RAVINDRA**  
Company Secretary

**C. VENKATARAMANA**  
Director (Finance)

**S.N. JOHRI**  
Chairman-cum  
Managing Director

### Auditor's Certificate

We have audited the above cash flow statement of National Aluminium Company Limited from the audited financial statements for the year ended March 31, 1998 and found the same to be drawn in accordance therewith and also with the requirements of Clause 32 of the listing agreements with stock exchanges.

For and on behalf of  
Brahmayya & Co,  
Chartered Accountants

New Delhi  
12th June, 1998

**V. Seetaramaiah**  
Partner

## Offices and Customer Contact Centres

### UNITS

#### 1. Mines & Refinery

Damanjodi-763 008  
Dist. : Koraput (Orissa)  
Phone : 06853-32201  
Fax : 06853-32214/32288

#### 2. Captive Power Plant

Dist. : Angul (Orissa)  
Pin : 759 122  
Phone : 06764-20360  
Fax : 06764-20646

#### 3. Smelter Plant

Nalco Nagar - 759 145  
Dist. : Angul (Orissa)  
Phone : 06764-20169  
Fax : 06764-20132

### PORT FACILITIES

#### Visakhapatnam

Opp. Ore Handling Complex,  
Visakhapatnam - 530 035,  
Andhra Pradesh  
Phone : 0891-561433/561435  
Fax : 0891-561598

### MARKETING OFFICES

#### 1. Mumbai

215, T. V. Industrial Estate,  
S. K. Ahire Marg, Worli,  
Mumbai - 400 025  
Phone : 022-4939288/4939289  
Fax : 022-4950500

#### 2. Calcutta

Binoy Bhawan,  
6th Floor, 27-B, Camac Street,  
Calcutta- 700 016  
Phone : 033-2401373  
Fax : 033-2478936

#### 3. New Delhi

303, Mercantile House,  
15, Kasturba Gandhi Marg,  
New Delhi - 110 001  
Phone : 011-3713430/  
3713757/ 3711634  
Fax : 033-3711636

#### 4. Chennai

3J, Century Plaza, 560, Anna Salai,  
Teynampet, Chennai - 600 018  
Phone : 044-4344162  
Fax : 044-453495

#### 5. Bangalore

Reshma Complex,  
5th Floor, 50 M. G. Road,  
Bangalore - 560 001  
Phone : 080-5587298/5587086  
Fax : 080-5586151

### STOCK YARDS

#### 1. New Delhi

National Small Industries  
Corporation Ltd.  
PDTC/NSIC Complex,  
Okhla Industrial Estate,  
New Delhi - 110 020

#### 2. Bhiwandi

Godown No. A/20  
Gupta Warehousing complex,  
Mhatre Compound,  
Dapoda Village  
Taluka, Bhiwandi,  
Dist. Thane

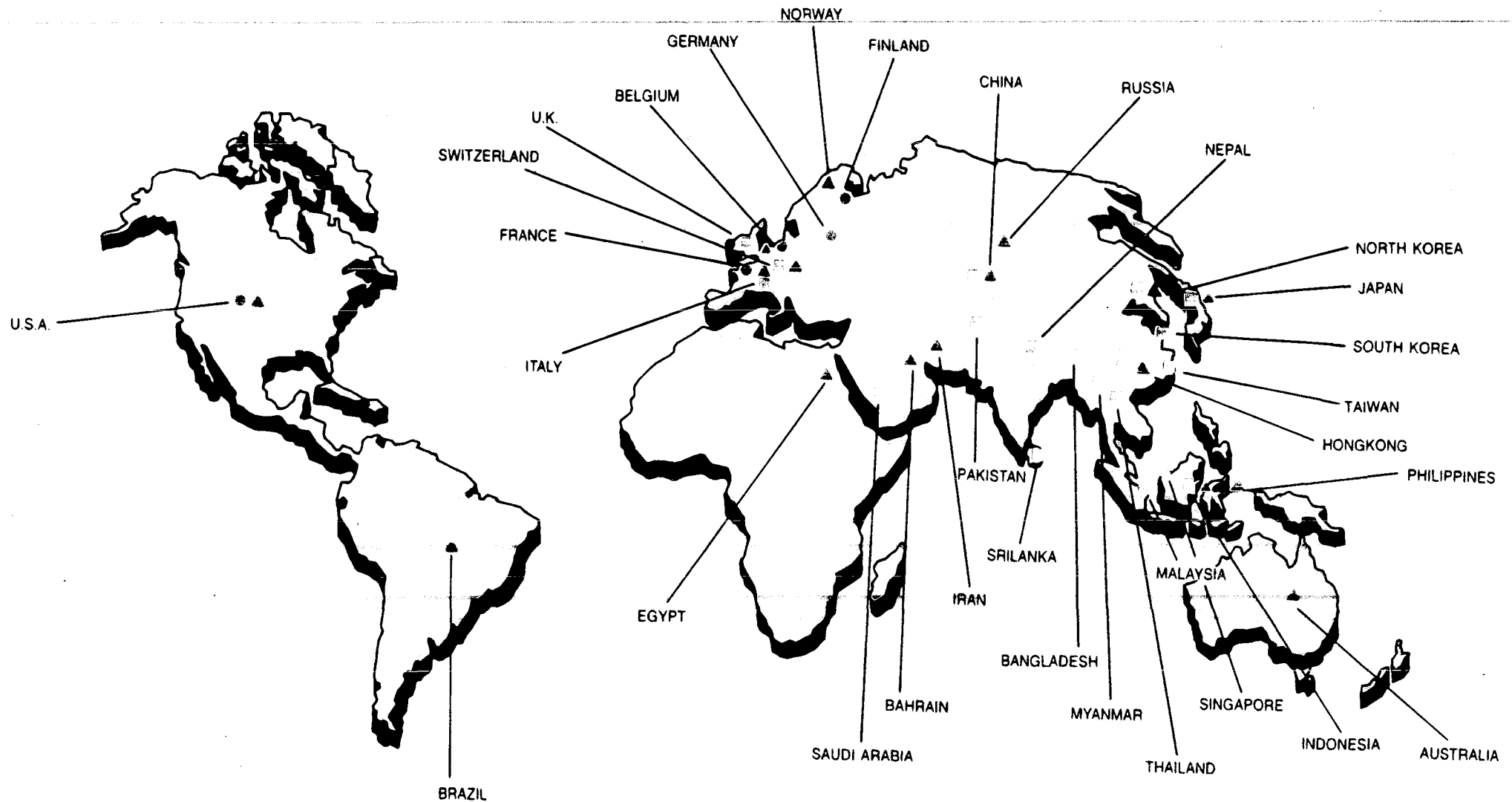
#### 3. Faridabad

The Haryana State Small Industries  
& Export Corporation Ltd.  
17/6, Mathura Road, Faridabad,  
Haryana - 121 007

#### 4. Pondicherry

J. K. Towers, II Floor (East),  
100, Feet Road, Ellaipillaichavady,  
Pondicherry - 605 013  
Phone : 0413-250276/251109  
Fax : 0413-250277

# GLOBAL PRESENCE



● Technology associates    ■ Aluminium export    ▲ Alumina export

