

# OCL INDIA LIMITED

Annual Report

2002-2003





## OCL INDIA LIMITED

Incorporated in India - Members' Liability Limited

DIRECTORS Shri Pradip Kumar Khaitan

Shri V.D. Jhunjhunwala

Shri S.S. Bhartia Shri D.N. Davar

Dr. S.R. Jain

Shri H.V. Lodha

Shri M.L. Chand

Shri V.P. Sood

(Whole time Director)

(Chairman)

(Whole time Director)

PRESIDENT Shri M.H. Dalmia

BANKERS State Bank of India .

United Bank of India Punjab National Bank

UCO Bank

REFRACTORY, CEMENT Raj

WORKS & REGD. OFFICE

Rajgangpur-770 017

(Orissa)

DELHI OFFICE B-47, Connaught Place,

New Delhi-110 001

**AUDITORS** V. Sankar Aiyar & Co.

Chartered Accountants



## DIRECTORS' REPORT

For the year ended 31.03.2003

The Directors present their Fifty third Annual Report of the Company for the year ended 31st March, 2003, together with the statement of accounts for that year.

## WORKING RESULTS

1.1	Working results for the year are as under:	2002-03	2001-02
		'000 Rs.	'000 Rs.
	Operating Profit	45,94,24	28,72,83
	Less: Interest	7,71,71	8,73,80
	Depreciation	14,10,58	13,21,35
	Profit before taxation	24,11,95	6,77,68
	Provision for current and deferred tax	5,79,18	(2,81,40)
	Provision for tax for earlier years Writen back	,	2,77,51
	Profit after taxation	18,32,77	6,73,79
	Add: Brought forward from previous year	18,28,02	21,65,02
	Excess provision for dividend written back	1	<u> </u>
,		36,60,80	28,38,81
	Transfer to General Reserve	4,50,00	9,39,63
	Proposed Dividend	1,48,28	71,16
	Tax on dividend	19,00	· <u>-</u>
	Surplus carried to Balance Sheet	30,43,52	18,28,02
		36,60,80	28,38,81

1.2 The Directors recommend payment of dividend for the year ended 31st March, 2003 at the rate of 25% on fully paid up equity shares and pro rata on partly paid up shares.

## CEMENT DIVISION

- 2.1 The cement production and sales have registered 8% growth over previous year. This could be achieved by optimum utilisation of cement grinding mills, increase in cement grinding capacity during the year and high demand growth rate in Orissa /Jharkhand.
- 2.2 Cement production and sales during the year under report are given below along with comparative figures for previous year.

		2002-03	2001-02
	(	Tons in '000s)	(Tons in '000s)
Cement production		1155	1043
Cement Sales(including self consumption)		1142	1059

The value of cement and clinker sales for the year 2002-03 and 2001-02 (inclusive of excise duty) are Rs.250.86 and Rs.217.06 crores respectively.

2.3 The outlook for cement appears to be optimistic in view of the higher cumulative average growth rate (CAGR) in Eastern market. Development of infrastructure, roads reconstruction activities and continuance of incentives to housing sector, will act as catalyst for further increase in demand for cement. The increase in excise duty on cement and clinker may have an adverse impact on the price of cement.



2.4 The new Roller Mill for cement grinding was successfully commissioned in December 2002. In view of growth in market demand, your company is taking steps to enhance the clinker and cement grinding capacity, improve efficiency and saving of energy.

## REFRACTORY DIVISION

- 3.1 During the year 2002-2003, your company has achieved total sales of Rs. 102.77 crores as compared to Rs. 92.38 crores in the last year. While the turn-over is higher the increase in quantitative terms is only marginal. The higher turn-over is mainly due to the shift in the marketing focus to the value added product mix. The steel sector, which is the main consumer of refractories, has of late showing signs of recovery. To sustain their production momentum in the improved market conditions, the major steel plants, are expected to implement their long overdue furnace revamping projects like rebuilding /major repair of coke oven batteries, repair of blast furnaces, etc. Your company is negotiating proposals for supply of silica bricks for coke oven battery rebuilding project/s.
- 3.2 On export front, your company has recorded total sales of Rs. 6.09 crore as against Rs. 8.81 crore in the previous year. The lower sales have been mainly due to intense competition from China and also aggressive marketing by European manufacturers who enjoy product preference from their traditional customers. Your company however is steadily gaining in customer confidence and product acceptance on the strength of its product quality. Besides broadening its customer base in the copper industry in overseas market, your company is engaged in expanding its non-ferrous market to cover glass industry also. Initial orders received from some glass units in the South East Asian and Gulf countries have successfully been executed.
- 3.3 Your company continues to make steady progress in increasing its market share for its high-tech products like concast refractories, purging element etc. Among the high-tech products, the company has this year achieved the highest sale of concast and slide gate refractories.
- 3.4 Your company holds ISO 9001 (1994) certificate from RWTUV, Germany, for its full range of refractories. The company is in the process of implementing the latest 2000 version of the ISO 9001.

## SPONGE IRON PROJECT:

Your company commenced production of sponge iron in this financial year by setting up a sponge iron plant with an initial capacity of 30,000 MT per annum. The capacity was increased to 60,000 MT in the second phase and will be increased to 90,000 MT per annum in third phase. The plant produced 21,519 MT of sponge iron and added 12.25 crores to the turnover. The Company is also planning to install 6 MW captive electricity generation plant by utilising waste heat generated from kiln.

#### DIRECTORS RESPONSIBILITY STATEMENT

- 4. The Directors confirm that:
  - a) applicable accounting standards had been followed in preparation of accounts under report.
  - b) reasonable and prudent accounting policies had been selected and applied which gives a true and fair view of the state of affairs of the company and of the Profit & Loss Account of the company for the year under report
  - c) proper and sufficient care had been taken for maintaining of adequate accounting records in accordance with the provisions of the Companies Act, 1956 for safeguarding the assets of the company.
  - d) accounts are prepared on a going concern basis.

#### BUY BACK OF SHARES

5. During the year the Company made an offer for buy back upto 11,83,708 fully paid up shares of Rs.10/- each at Rs.80/- per share through tender offer as per the provisions of the Companies Act,1956 and Securities Exchange Board of India (Buy back of securities) Regulations,1998. The offer closed on 7th April,2003. As the no. of shares offered were more, buy back was restricted to the maximum no. of shares offered for buy back, on proportionate basis. After buy back the share capital of the Company stands reduced by Rs.1118.37 lakhs.



#### SUBSIDIARIES

6. During the year Subsidiary companies have raised their paid up capital to the threshold limit prescribed in the Section 3 (4) of the Companies Act,1956. Copies of Accounts and the Directors' Reports, for the year ended 31.03.2003 of subsidiaries, Konark Minerals Limited, Kashmissa Industries Limited and Hari Fertilizers Limited are annexed.

#### LABOUR MANAGEMENT RELATIONS

7. Relations between the Management and Employees were cordial during the year under review.

#### DEPOSITS

8. The Directors report that, as on 31st March, 2003, there were 72 deposits aggregating to Rs.9.96 lakhs which remained unclaimed beyond due dates, out of which deposits aggregating to Rs.1.93 lakhs have since been renewed/repaid.

#### PARTICULARS OF EMPLOYEES

9. The particulars of the employees as required u/s 217(2A) of the Companies Act, 1956 are set out in the Annexure-I, which forms part of this report.

#### CONSERVATION OF ENERGY, ETC.

10. Information required under Section 217(1)(e) of the Companies Act, 1956 read with the relevant Rules, with regard to conservation of energy technology absorption and foreign exchange earnings and outgo are given in Annexure-II which forms part of this report.

#### CORPORATE GOVERNANCE

11. As per clause no.49 of the listing agreement report on corporate governance is given in Annexure-III which forms part of this Report.

Place: New Delhi

Date: 17.05.2003

BY ORDER OF THE BOARD (VP SOOD) WHOLETIME DIRECTOR

> (V.D. JHUNJHUNWALA) DIRECTOR



## ANNEXURE-II TO THE DIRECTORS' REPORT

STATEMENT CONTAINING PARTICULARS PURSUANT TO COMPANIES (DISCLOSURE OF PARTICULARS IN THE REPORT OF BOARD OF DIRECTORS) RULES, 1988 AND FORMING PART OF DIRECTORS' REPORT DATED 17th MAY, 2003

#### I. CONSERVATION OF ENERGY

#### Cement

- a) Energy Conservation measures taken (Up dated)
  - i) Regular Energy Audit by experienced Engineers and consultants.
  - ii) Monitoring of maximum demand regularly to control maximum KVA drawn from grid supply.
  - iii) Use of DC motors for variable speed application through thyristor control panel instead of dampers of cement mills, vent fan, booster fan for CVRMAC motors with frequency covertors in some applications.
  - iv) New Roller Mill for grinding of Cement installed which is power efficient.
  - v) Reduction of idle running of equipments.
  - vi) Use of capacitor for improving the power factor.
- Additional investments and proposals, if any, being implemented for reduction of consumption of energy;
  - i) Increase in clinker/cement capacity with power efficiency
  - ii) Installation of energy efficient roller mill for cement grinding.
  - iii) Installation of waste gas fan for using waste hot gases from kiln for drying of slag.
- c) Impact of the measures at (a) and (b) above for reduction of energy consumption and consequent impact on the cost of production of grades:
  - i) Reduction in cost of clinker production.
  - ii) Utilisation of waste heat for drying moisture of raw materials such as slag.

#### Refractory

#### (a) Energy Conservation measures taken:

## **ELECTRICAL ENERGY**

- i) Regular in house energy audit being carried out by experienced engineers with implementation of corrective steps.
- ii) Continuation of practice of installing capacitor to monitor the power factor between 0.98 1.
- iii) Selection of energy saving equipments and drives.
- iv) Optimizing capacity of Impact Mill Circuit in Basic Plant and thereby reducing running shifts.
- v) Use of lower H.P axial flow man cooler fans instead of high H.P radial blowers in Concast plant.
- vi) Use of transparent sheet inside roofing to eliminate use of electric light during day time in Concast & Castable Plants.

#### THERMAL ENERGY

- i) Slide Gate plates firing standardised with Producer Gas at Bell Kiln replacing Furnace Oil.
- ii) Furnace oil sludge consumed as per availability in BTK.
- iii) Use of fuel oil additives continued with furnace oil.
- iv) Drying of Concast finished products with furnace oil is replaced completely by Producer Gas.

## (b) Additional Investment Proposal.

- i) Use of producer gas in place of furnace oil in thermo oil burner.
- ii) Use of low mass kiln car.
- iii) Use of Producer Gas at Shaft Kiln partly replacing furnace Blank.
- (c) Impact of the measures at (a) and (b) above for reduction of energy consumption and consequent impact on the cost of production of grades:

Electrical energy consumption per absolute MT of refractory product has reduced.



FORM-A
(PARTICULARS OF TOTAL ENERGY CONSUMPTION AND ENERGY CONSUMPTION PER UNIT OF PRODUCTION)

A) POWER AND FUEL CONSUMPTION  1. Electricity a) Purchased Units (in lacs) 865.51 80.49 585.25 71.09 Total Amount (Rs.in lacs) 2,782.30 258.88 1,712.52 209.03 Rate/ Unit (Rs.) 3.21 3.22 2.93 2.94 b) Own generation i) Through Power Generators Unit (in lacs) 232.70 20.34 355.76 38.50 Units per Ltr. Of fuel 3.33 3.33 3.61 3.61 Cost/Unit (Rs.) 4.53 4.53 3.05 3.05  2. Coal Tonnes (in lacs) 1.32 0.14 1.51 0.14 Total Cost (Rs. in lacs) 1,303.34 105.29 1,333.26 109.83 Average rate (Rs./MT) 983.13 763.96 884.14 770.33 3. Furnace Oil Quantity (K.ltr) 7,254.496 3,231.02 9,990.78 3,490.24 Total amount (Rs. in lacs) 737.41 323.09 845.51 296.27 Average rate (Rs./K.ltr.) 10,164.91 9,999.49 8,462.93 8,488.53  4. Others / Internal Generation a) Light Diesel Oil for PG Sets Quantity (K.Ltr.) 9.79 0.86 — — Rate/Unit (Rs./K.Ltr.) 15,163.52 15,163.52 — — b) Light Diesel Oil for Kiln Quantity (K.ltr) 35.00 1.09 46.225 — — b) Light Diesel Oil for Kiln Quantity (K.Mr) 15,473.71 11,716.52 13,106.80 — — CHSD Oil for CVRM Quantity (K.Ltrs) 463.556 — 323.947 — — CHSD Oil for CVRM Quantity (K.Ltrs) 463.556 — 323.947 — — CHSD Oil for CVRM Quantity (K.Ltrs) 463.556 — 323.947 — — CHSD Oil for CVRM Quantity (K.Ltrs) 7,328.42 — 17,750.47 — — d) Furnance Oil Sludge for Kilns Quantity (K.Ltrs) 7,328.42 — 17,750.47 — — d) Furnance Oil Sludge for Kilns Quantity (K.Ltrs) — — — 145.03 Total Cost(Rs. in lacs) — — — 5.46		CURRENT PERIOD 2002-03		PREVIOUS YEAR 2001-02	
1. Electricity   a) Purchased   Units (in lacs)   865.51   80.49   585.25   71.09		CEMENT R	EFRACTORY	CEMENT	REFRACTORY
a) Purchased Units (in lacs)	A) POWER AND FUEL CONSUMPTION				
Units (in lacs)	1. Electricity				· ×
Total Amount (Rs. in lacs) Rate/ Unit (Rs.) 3.21 3.22 2.93 2.94 b) Own generation i) Through Power Generators Unit (in lacs) Unit (spe Ltr. Of fuel 3.33 3.33 3.61 3.61 3.61 Cost/Unit (Rs.) 4.53 4.53 3.05 3.05 2. Coal Tonnes (in lacs) 1.32 Average rate (Rs./MT) Total Cost (Rs. in lacs) Average rate (Rs./MLtr.) Total Cost (Rs. in lacs) 1.32 4.01 Quantity (K.ltr.) Total Cost (Rs. in lacs) Average rate (Rs./K.ltr.)  Others / Internal Generation a) Light Diesel Oil for PG Sets Quantity (K.ltr.) 15,163.52 b) Light Diesel Oil for Kiln Quantity (K.ltr.) 15,473.71 C) HSD Oil for CVRM Quantity (K.ltrs) Again Again Again Quantity (K.ltrs) Again Again Quantity (K.ltrs) Total Cost (Rs. in lacs) Again Again Again Again Quantity (K.ltr.) 15,473.71 11,716.52 13,106.80	a) Purchased			•	
Rate/Unit (Rs.)   3.21   3.22   2.93   2.94	·		80.49	585.25	71.09
b) Own generation i) Through Power Generators Unit (in lacs) Unit (sper Ltr. Of fuel Cost/Unit (Rs.)  232.70  20.34  355.76  38.50  2. Coal  Tonnes (in lacs)  1.32  3.05  3.40  3.21  3.20  9.990.78  3.490.24  3.231.02  9.990.78  3.490.24  3.231.02  9.990.78  3.490.24  3.240.29  8.485.31  4.01		2,782.30			209.03
Through Power Generators		3.21	3.22	2.93	2.94
Unit (in lacs) Units per Ltr. Of fuel Cost/Unit (Rs.)  232.70 20.34 355.76 38.50 3.61 3.61 3.61 3.61 3.61 Cost/Unit (Rs.)  2. Coal Tonnes (in lacs) Total Cost (Rs. in lacs) 1.32 Average rate (Rs./MT) 3. Furnace Oil Quantity (K.ltr) 7,254.496 3,231.02 9,990.78 3,490.24 Total amount (Rs. in lacs) 737.41 323.09 845.51 296.27 Average rate (Rs./K.ltr.) 4. Others / Internal Generation a) Light Diesel Oil for PG Sets Quantity (K.Ltr.) 15,163.52 15,163.52  b) Light Diesel Oil for Kiln Quantity (K.ltr) 35.00 1.09 46.225 Total cost (Rs. in lacs) Rate/Unit (Rs./K)T) 15,473.71 11,716.52 13,106.80 Rate/Unit (Rs./K)T) 15,473.71 11,716.52 13,106.80 CHSD Oil for CVRM Quantity (K.Ltrs) Again lacs) Rate per Unit (Rs./K/Ltr) 17,328.42 17,750.47 4 Furnance Oil Studge for Kilns Quantity (K.Ltrs) Total Cost(Rs. in lacs) Rate per Unit (Rs./K/Ltr) 11,9846 11,9846 12,124 13,30 3.33 3.61 3.61 3.61 3.61 3.61 3.61 3.61					
Units per Ltr. Of fuel Cost/Unit (Rs.) 4.53 4.53 3.05 3.05 3.05 2. Coal  Tonnes (in lacs) 1.32 0.14 1.51 0.14 Total Cost (Rs. in lacs) 1,303.34 105.29 1,333.26 109.83 Average rate (Rs./MT) 983.13 763.96 884.14 770.34 3. Furnace Oil Quantity (K.Itr) 7,254.496 3,231.02 9,990.78 3,490.24 Total amount (Rs. in lacs) 737.41 323.09 845.51 296.27 Average rate (Rs./K.tr.) 10,164.91 9,999.49 8,462.93 8,488.53 4. Others / Internal Generation a) Light Diesel Oil for PG Sets Quantity (K.Ltr.) 15,163.52 15,163.52					
Cost/Unit (Rs.)				,	
2.   Coal   Tonnes (in lacs)   1.32   0.14   1.51   0.14   Total Cost (Rs. in lacs)   1,303.34   105.29   1,333.26   109.83   Average rate (Rs./MT)   983.13   763.96   884.14   770.34   770.					
Tonnes (in lacs)		4.53	4.53	3.05	3.05
Total Cost (Rs. in lacs) Average rate (Rs./MT)  7,254.496 Average rate (Rs./MT)  7,254.496 Average rate (Rs./K.ltr) Average rate (Rs./K.ltr)  Quantity (K.ltr) Total amount (Rs. in lacs) Average rate (Rs./K.ltr.)  7,254.496 Average rate (Rs./K.ltr.)  10,164.91  9,999.49  8,462.93  8,488.53  4. Others / Internal Generation a) Light Diesel Oil for PG Sets Quantity (K.Ltr.)  Quantity (K.Ltr.)  P,79  O.86  Quantity (Rs./K.ltr.)  Display Diesel Oil for Kiln Quantity (K.ltr)  Quantity (K.ltr)  Quantity (K.ltr)  Ouantity (K.ltr)  Associated		1.00	0.14		0.14
Average rate (Rs./MT) 983.13 763.96 884.14 770.34  3. Furnace Oil  Quantity (K.ltr) 7,254.496 3,231.02 9,990.78 3,490.24  Total amount (Rs. in lacs) 737.41 323.09 845.51 296.27  Average rate (Rs./K.ltr.) 10,164.91 9,999.49 8,462.93 8,488.53  4. Others / Internal Generation  a) Light Diesel Oil for PG Sets  Quantity (K.Ltr.) 9.79 0.86 — — —  Total Cost (Rs. in lacs) 1.49 0.13 — — — — — — — — — — — — — — — — — — —					
3. Furnace Oil Quantity (K.Itr) Total amount (Rs. in lacs) Average rate (Rs./K.Itr.)  4. Others / Internal Generation a) Light Diesel Oil for PG Sets Quantity (K.Ltr.) Total Cost (Rs. in lacs) Rate/Unit (Rs./K.Ltr.)  15,163.52  Total Cost (Rs. in lacs) Rate/Unit (Rs./MT) Total Cost (Rs. in lacs) Rate/Unit (Rs./MT) Total Cost (Rs. in lacs) Rate/Unit (Rs./K.Ltr.)  5.44  CHSD Oil for CVRM Quantity (K.Ltrs)  CHSD Oil for CVRM Quantity (K.Ltrs) Rate per Unit (Rs./K/Ltr)  Total Cost(Rs. in lacs) Rate per Unit (Rs./K/Ltr) Rate Per Uni					
Quantity (K.ltr)         7,254.496         3,231.02         9,990.78         3,490.24           Total amount (Rs. in lacs)         737.41         323.09         845.51         296.27           Average rate (Rs./K.ltr.)         10,164.91         9,999.49         8,462.93         8,488.53           4. Others / Internal Generation         a) Light Diesel Oil for PG Sets         9,79         0.86         —         —           Quantity (K.ltr.)         15,163.52         15,163.52         —         —         —           Total Cost (Rs.in lacs)         1.49         0.13         —         —         —           Quantity (K.ltr.)         35.00         1.09         46.225         —         —           Total cost (Rs.in lacs)         5.42         0.13         6.06         —         —           Rate/Unit (Rs./MT)         15,473.71         11,716.52         13,106.80         —         —           C) HSD Oil for CVRM         Quantity (K.Ltrs)         463.556         —         323.947         —           Total Cost(Rs. in lacs)         80.33         —         57.50         —           Rate per Unit (Rs./K/Ltr)         17,328.42         —         17,750.47         —           Quantity (K.Ltrs)         — </td <td></td> <td>983.13</td> <td>/63.96</td> <td>884.14</td> <td>//0.34</td>		983.13	/63.96	884.14	//0.34
Total amount (Rs. in lacs)   737.41   323.09   845.51   296.27		7 254 406	2 221 02	0.000.79	2 400 24
Average rate (Rs./K.ltr.)  4. Others / Internal Generation a) Light Diesel Oil for PG Sets Quantity (K.Ltr.)					
4. Others / Internal Generation a) Light Diesel Oil for PG Sets Quantity (K.Ltr.) 9.79 0.86 — — Total Cost (Rs.in lacs) 1.49 0.13 — — Rate/Unit (Rs./K.Ltr.) 15,163.52 15,163.52 — — — b) Light Diesel Oil for Kiln Quantity (K.ltr) 35.00 1.09 46.225 — — Total cost (Rs.in lacs) 5.42 0.13 6.06 — — Rate/Unit (Rs./MT) 15,473.71 11,716.52 13,106.80 — — C) HSD Oil for CVRM Quantity (K.Ltrs) 463.556 — 323.947 — — Total Cost(Rs. in lacs) 80.33 — 57.50 — — Rate per Unit (Rs./K/Ltr) 17,328.42 — 17,750.47 — — d) Furnance Oil Sludge for Kilns Quantity (K.Ltrs) — — — 145.03 Total Cost(Rs. in lacs) — — — 5.46 Rate per Unit (Rs./K/Ltr) — — — 3,764.64 e) High Speed Diesel Oil etc. for Payloaders & Tippers at Factory Quantity (K.Ltrs) 119.846 — 43.128 — — Total Cost(Rs. in lacs) 21.12 — 7.77 — — Rate per Unit (Rs./K/Ltr) 17,625.15 — 18,004.87 — — FIND Oil for Diesel Locos Quantity (Tonnes) 33.94 — 100.992 — — Total cost (Rs.in lacs) 5.77 — 18.24					
a) Light Diesel Oil for PG Sets Quantity (K.Ltr.) 9.79 0.86 — — Total Cost (Rs.in lacs) 1.49 0.13 — — Rate/Unit (Rs./K.Ltr.) 15,163.52 15,163.52 — — —  Light Diesel Oil for Kiln Quantity (K.ltr) 35.00 1.09 46.225 — Total cost (Rs.in lacs) 5.42 0.13 6.06 — Rate/Unit (Rs./MT) 15,473.71 11,716.52 13,106.80 —  C) HSD Oil for CVRM Quantity (K.Ltrs) 463.556 — 323.947 — — Total Cost(Rs. in lacs) 80.33 — 57.50 — Rate per Unit (Rs./K/Ltr) 17,328.42 — 17,750.47 —  d) Furnance Oil Sludge for Kilns Quantity (K.Ltrs) — — 145.03 Total Cost(Rs. in lacs) — — 5.46 Rate per Unit (Rs./K/Ltr) — — 3,764.64  e) High Speed Diesel Oil etc. for Payloaders & Tippers at Factory Quantity (K.Ltrs) 119.846 — 43.128 — Total Cost(Rs. in lacs) 21.12 — 7.77 — Rate per Unit (Rs./K/Ltr) 17,625.15 — 18,004.87 —  f) HSD Oil for Diesel Locos Quantity (Tonnes) 33.94 — 100.992 — Total cost (Rs.in lacs) 5.77 — 18.24		10,104.91	9,999.49	0,402.93	0,400.33
Quantity (K.Ltr.)       9.79       0.86       —       —         Total Cost (Rs.in lacs)       1.49       0.13       —       —         Rate/Unit (Rs./K.Ltr.)       15,163.52       15,163.52       —       —         b) Light Diesel Oil for Kiln       —       —       —         Quantity (K.Ltr)       35.00       1.09       46.225       —         Total cost (Rs.in lacs)       5.42       0.13       6.06       —         Rate/Unit (Rs./MT)       15,473.71       11,716.52       13,106.80       —         c) HSD Oil for CVRM       —       —       323.947       —         Quantity (K.Ltrs)       463.556       —       323.947       —         Total Cost(Rs. in lacs)       80.33       —       57.50       —         Rate per Unit (Rs./K/Ltr)       17,328.42       —       17,750.47       —         d) Furnance Oil Sludge for Kilns       —       —       —       145.03         Total Cost(Rs. in lacs)       —       —       —       145.03         Total Cost(Rs. in lacs)       —       —       —       5.46         Rate per Unit (Rs./K/Ltr)       —       —       —       —       3,764.64         e					
Total Cost (Rs.in lacs)   1.49   0.13		9.79	0.86		
Rate/Unit (Rs./K.Ltr.)   15,163.52   15,163.52   — — — — — — — — — — — — — — — — — —					_
b) Light Diesel Oil for Kiln Quantity (K.ltr) 35.00 1.09 46.225 — Total cost (Rs.in lacs) 5.42 0.13 6.06 — Rate/Unit (Rs./MT) 15,473.71 11,716.52 13,106.80 —  C) HSD Oil for CVRM Quantity (K.Ltrs) 463.556 — 323.947 — Total Cost(Rs. in lacs) 80.33 — 57.50 — Rate per Unit (Rs./K/Ltr) 17,328.42 — 17,750.47 —  d) Furnance Oil Sludge for Kilns Quantity (K.Ltrs) — — 145.03 Total Cost(Rs. in lacs) — — 145.03 Rate per Unit (Rs./K/Ltr) — — 3,764.64  e) High Speed Diesel Oil etc. for Payloaders & Tippers at Factory Quantity (K.Ltrs) 119.846 — 43.128 — Total Cost(Rs. in lacs) 21.12 — 7.77 — Rate per Unit (Rs./K/Ltr) 17,625.15 — 18,004.87 — HSD Oil for Diesel Locos Quantity (Tonnes) 33.94 — 100.992 — Total cost (Rs.in lacs) 5.77 — 18.24					_
Quantity (K.ltr)       35.00       1.09       46.225       —         Total cost (Rs.in lacs)       5.42       0.13       6.06       —         Rate/Unit (Rs./MT)       15,473.71       11,716.52       13,106.80       —         c) HSD Oil for CVRM       Quantity (K.Ltrs)       463.556       —       323.947       —         Total Cost(Rs. in lacs)       80.33       —       57.50       —         Rate per Unit (Rs./K/Ltr)       17,750.47       — </td <td></td> <td>,</td> <td>10,100.02</td> <td></td> <td>•</td>		,	10,100.02		•
Total cost (Rs.in lacs) Rate/Unit (Rs./MT) 15,473.71 11,716.52 13,106.80 — HSD Oil for CVRM Quantity (K.Ltrs) 463.556 — 323.947 — Total Cost(Rs. in lacs) Rate per Unit (Rs./K/Ltr) 17,328.42 — 17,750.47  d) Furnance Oil Sludge for Kilns Quantity (K.Ltrs) Total Cost(Rs. in lacs) Rate per Unit (Rs./K/Ltr) Total Cost(Rs. in lacs) Rate per Unit (Rs./K/Ltr)  Total Cost(Rs. in lacs) Total Cost(Rs. in lacs) Rate per Unit (Rs./K/Ltr) Total Cost(Rs. in lacs) Rate per Unit (Rs./K/Ltr) Total Cost(Rs. in lacs) Rate per Unit (Rs./K/Ltr) Total Cost(Rs. in lacs) Total Cost (Rs. in lacs) Total		35.00	1.09	46.225	
Rate/Unit (Rs./MT) 15,473.71 11,716.52 13,106.80 —  C) HSD Oil for CVRM  Quantity (K.Ltrs) 463.556 — 323.947 —  Total Cost(Rs. in lacs) 80.33 — 57.50 —  Rate per Unit (Rs./K/Ltr) 17,328.42 — 17,750.47 —  d) Furnance Oil Sludge for Kilns  Quantity (K.Ltrs) — — 145.03  Total Cost(Rs. in lacs) — — 5.46  Rate per Unit (Rs./K/Ltr) — — 3,764.64  e) High Speed Diesel Oil etc. for  Payloaders & Tippers at Factory  Quantity (K.Ltrs) 119.846 — 43.128 —  Total Cost(Rs. in lacs) 21.12 — 7.77 —  Rate per Unit (Rs./K/Ltr) 17,625.15 — 18,004.87 —  f) HSD Oil for Diesel Locos  Quantity (Tonnes) 33.94 — 100.992 —  Total cost (Rs. in lacs) 5.77 — 18.24					
c) HSD Oil for CVRM  Quantity (K.Ltrs)					
Quantity (K.Ltrs)       463.556       —       323.947       —         Total Cost(Rs. in lacs)       80.33       —       57.50       —         Rate per Unit (Rs./K/Ltr)       17,328.42       —       17,750.47       —         d) Furnance Oil Sludge for Kilns       —       —       17,750.47       —         Quantity (K.Ltrs)       —       —       —       5.46         Rate per Unit (Rs./K/Ltr)       —       —       —       3,764.64         e) High Speed Diesel Oil etc. for Payloaders & Tippers at Factory       —       —       —       3,764.64         e) High Cost(Rs. in lacs)       21.12       —       7.77       —         Quantity (K.Ltrs)       119.846       —       43.128       —         Total Cost(Rs. in lacs)       21.12       —       7.77       —         Rate per Unit (Rs./K/Ltr)       17,625.15       —       18,004.87       —         f) HSD Oil for Diesel Locos       —       100.992       —         Quantity (Tonnes)       33.94       —       100.992       —         Total cost (Rs.in lacs)       5.77       —       18.24       —		,	,	,	
Total Cost(Rs. in lacs)		463.556		323.947	
d) Furnance Oil Sludge for Kilns  Quantity (K.Ltrs) — — — — — — — — — — — — 5.46  Rate per Unit (Rs./K/Ltr) — — — — — — — 3,764.64  e) High Speed Diesel Oil etc. for  Payloaders & Tippers at Factory  Quantity (K.Ltrs) — — — — — — — — — — — — — — — — — — —	- ·	80.33	-	57.50	
Quantity (K.Ltrs)       —       —       —       —       145.03         Total Cost(Rs. in lacs)       —       —       —       5.46         Rate per Unit (Rs./K/Ltr)       —       —       —       3,764.64         e) High Speed Diesel Oil etc. for Payloaders & Tippers at Factory       —       —       —       43.128       —         Quantity (K.Ltrs)       119.846       —       —       43.128       —         Total Cost(Rs. in lacs)       21.12       —       7.77       —         Rate per Unit (Rs./K/Ltr)       17,625.15       —       18,004.87       —         f) HSD Oil for Diesel Locos       —       —       100.992       —         Quantity (Tonnes)       33.94       —       100.992       —         Total cost (Rs.in lacs)       5.77       —       18.24       —	Rate per Unit (Rs./K/Ltr)	17,328.42	· <u></u>	17,750.47	· ·
Total Cost(Rs. in lacs) — — — — 5.46 Rate per Unit (Rs./K/Ltr) — — — 3,764.64  e) High Speed Diesel Oil etc. for Payloaders & Tippers at Factory Quantity (K.Ltrs) 119.846 — 43.128 — Total Cost(Rs. in lacs) 21.12 — 7.77 — Rate per Unit (Rs./K/Ltr) 17,625.15 — 18,004.87 —  f) HSD Oil for Diesel Locos Quantity (Tonnes) 33.94 — 100.992 — Total cost (Rs. in lacs) 5.77 — 18.24 —	d) Furnance Oil Sludge for Kilns				
Rate per Unit (Rs./K/Ltr) — — — — 3,764.64  e) High Speed Diesel Oil etc. for Payloaders & Tippers at Factory Quantity (K.Ltrs) 119.846 — 43.128 — 7.77  Rate per Unit (Rs./K/Ltr) 17,625.15 — 18,004.87 — 18D Oil for Diesel Locos Quantity (Tonnes) 33.94 — 100.992 — Total cost (Rs.in lacs) 5.77 — 18.24	Quantity (K.Ltrs)	_	_	<del></del>	145.03
e) High Speed Diesel Oil etc. for Payloaders & Tippers at Factory Quantity (K.Ltrs) 119.846 — 43.128 — Total Cost(Rs. in lacs) 21.12 — 7.77 — Rate per Unit (Rs./K/Ltr) 17,625.15 — 18,004.87 —  f) HSD Oil for Diesel Locos Quantity (Tonnes) 33.94 — 100.992 — Total cost (Rs.in lacs) 5.77 — 18.24	Total Cost(Rs. in lacs)		•		5.46
Payloaders & Tippers at Factory         Quantity (K.Ltrs)       119.846       —       43.128       —         Total Cost(Rs. in lacs)       21.12       —       7.77       —         Rate per Unit (Rs./K/Ltr)       17,625.15       —       18,004.87       —         f) HSD Oil for Diesel Locos       —       100.992       —         Quantity (Tonnes)       33.94       —       100.992       —         Total cost (Rs.in lacs)       5.77       —       18.24       —		_	_		3,764.64
Quantity (K.Ltrs)       119.846       —       43.128       —         Total Cost(Rs. in lacs)       21.12       —       7.77       —         Rate per Unit (Rs./K/Ltr)       17,625.15       —       18,004.87       —         f) HSD Oil for Diesel Locos       —       100.992       —         Quantity (Tonnes)       33.94       —       100.992       —         Total cost (Rs.in lacs)       5.77       —       18.24       —					
Total Cost(Rs. in lacs)  Rate per Unit (Rs./K/Ltr)  17,625.15  HSD Oil for Diesel Locos  Quantity (Tonnes)  Total cost (Rs. in lacs)  21.12  — 7.77  — 18,004.87  — 100.992  — 100.992  — 18.24	Payloaders & Tippers at Factory	1			
Rate per Unit (Rs./K/Ltr) 17,625.15 — 18,004.87 — 18004.87 — 18004.87 — 100.992 — 100.992 — 100.992 — 18.24 — 18.24 — 18.24			· —		
f) HSD Oil for Diesel Locos  Quantity (Tonnes) 33.94 — 100.992 —  Total cost (Rs.in lacs) 5.77 — 18.24 —			· —		
Quantity (Tonnes)       33.94       —       100.992       —         Total cost (Rs.in lacs)       5.77       —       18.24       —	•	17,625.15	· · · ·	18,004.87	· : —
Total cost (Rs.in lacs) 5.77 — 18.24 —	and the second s				
			•		· · · · · · ·
Rate/Unit (Rs./MT) 17,009.81 — 18,058.14 —					
	Rate/Unit (Rs./MT)	17,009.81	.—	18,058.14	<del>-</del>



			NT PERIOD 02-03	PREVIOU 2001	
			REFRACTORY		-02 REFRACTORY
g)	Dynamics F Kilns Quantity (K.ltr.) Total cost (Rs. In lacs) Rate / Unit (Rs.)		1.70 4.31 2,53,427.65	= .	· · · · · · · · · · · · · · · · · · ·
onge I	ron				
a)	POWER AND FUEL CONSUMP Electricity	TION			
i)	Purchased Units (in lacs) Total Amount (Rs.in lacs) Rate/ Unit (Rs.)	12.16 39.59 3.26			
ii)	Own generation Through Power Generators Unit (in lacs) Units per Ltr. Of fuel Cost/Unit (Rs.)	0.10 2.59 8.91			
a) Ce	SUMPTION PER UNIT OF PRODU	UCTION (PE	R MT)	2002-03	2001-0
•	Electricity (KWH) Furnace Oil (Litres)			94 0,229	0.098
•	Coal (grades C to F & Coke breeze)	(Kgs.)		114.00	115.000
•	Others - L.D. Oil (Litres.)			0.030	0.035
	for Pay loaders			0.104	0.041
	for CVRM			0.400	0.310
b) Re •	efractory Electricity (KWH) Furnace Oil (K. Ltr)			331.00	384.00
	For Oil Fired Bricks			0.195	0.222
	For Mixed Fire Bricks			0.167	0.203
•	Steam coal & screened coke (MT)			1 244	1.00
	For Gas fired bricks For Mixed fire bricks			1.344 1.590	1.094 1.262
•	Furnace Oil Sludge(MT)			1.570	1.202
	For Oil Fired Bricks			· ·	0.020
•	Dynamics F For oil fired bricks			0.0002	
c) Sp	onge Iron				
•	Electricity (KWH)			56.50	· · · · · · · · · · · · · · · · · · ·
_	Fuel oil (Ltrs)			0.17	



# REASONS FOR VARIATION IN THE CONSUMPTION OF POWER & FUEL FROM STANDARDS OR PREVIOUS YEAR

## CEMENT

Finer grinding of Cement, pollution control equipments and change in produce mix.

#### II. TECHNOLOGY ABSORPTION

- 1) Research & Development (R&D)
  - a) Specific areas in which R & D carried out by the Company.

#### CEMENT

- i) Optimisation of dose of slag in Portland Slag Cement with optimum Blaine value
- ii) Development of Sulphate Resistant Cement
- iii) Development of Oil Well Cement
- iv) Optimization of Flyash dose in PPC in lab scale production

## REFRACTORY

#### DEVELOPMENT of:

#### MAG CARBON & AMC REFRACTORIES

- i) L.D.Converter for 300 T Converter.
- ii) LF/VD with higher heat guarantee
- iii) Alumina-Magnesia Carbon
- iv) Mg.C bricks for L.D.Converter.

## **BASIC MONOLITHICS & BURNT BRICKS**

- i) Gunning material for LD Converter equivalent to imported materials.
- ii) Hot patching material for LD Converter and Ladle equivalent to imported materials.
- iii) Mag Alumina bricks for Lime Kiln.

## SILICA REFRACTORIES:-

#### Silica Insulating Bricks

Sillca Insulating Bricks with max.0.9 g/cc BD and min .60% AP and a very low thermal Conductivity have been developed. Bricks have been supplied to Glass Industry both in domestic and export market.

## CONTINUOUS CASTING REFRACTORIES:-

- i) Sub Entry Nozzle for long casting time (7-9 hours)
- ii) Ladle Shroud for long casting time (9 hours).
- iii) Oxidation resistance Ladle shroud.

## **CASTABLE REFRACTORIES:-**

- i) Development of Endless lining castable.
- ii) Establishment of trough ramming mass
- iii) Establishment of Purging Plug and Spinel seating block.
- iv) Development of Tap Hole Clay.

## SLIDE PLATE REFRACTORIES:-

- i) Development of Slide Gate and its components.
- ii) Development of Tundish Spray Mass.
- iii) Development of bottom plate component for 6300 Flocon system.

## b) Benefits derived as a result of the above R&D:

#### CEMENT

- i) Use of alternative cheaper additive has become possible
- ii) Use of higher percentage of slag in Portland slag cement has become feasible
- iii) Portland Cement having Sulphate Resistance quality has successfully been developed and marketed.
- iv) Flyash based PPC has been sold in the market to the tune of about 1.38 lakh tones this year
- v) Oil well Cement has been developed.



#### REFRACTORY

## MAG CARBON & AMC REFRACTORIES

i) Target life achieved

## **BASIC MONOLITHICS & BURNT BRICKS**

- i) Conducted trials & successful at Visakhapatnam Steel Plant.
- ii) Supplied to BSL Converter.

#### CONTINUOUS CASTING REFRACTORIES:

- i) Sub Entry Nozzle for long casting time (7-9 hours).
- ii) Ladle Shroud for long casting time (9 hours).
- iii) Oxidation resistance Ladle shroud.

## CASTABLE AND PRECAST

- i) Order obtained for Purging plug
- ii) Spinel Seating Block established.
- iii) Product developed and enquiry received for endless lining.
- iv) Successful trial of taphole clay.
- v) Successful trial of Alumina-Carbon ramming mass.
- vi) Supplied Flooring Pads and achieved 9 months life and Precast Ceramic Burner for smelter.

### c) Future plan of action:

#### CEMENT

Enhancement of clinker / cement capacity.

#### REFRACTORY

## MAG CARBON & AMC REFRACTORIES:-

- i) For higher heat guarantee in LF/VD
- ii) Higher life in OTBC Converter
- iii) EBT Furnace

#### BASIC BURNT BRICKS

- i) Magzir quality with Zr02 16% for Glass Industry.
- ii) Gunning material for EOF.

## PRECAST & CASTABLE REFRACTORIES:-

- i) Improvement of DS lance.
- ii) Establishment of Taphole clay.
- iii) Establishment of seating block.
- iv) Development of Castable for VAD heat shield.
- v) Development of non-wetting castable for Al ladles.
- vi) Bubble Alumina based castables for Petrochem and refinery industries.
- vii) High strength mortars and plastics for Petrochem and refinery industries.

#### CONCAST REFRACTORIES:-

- i) Improvement in Mono Block Stopper.
- ii) Development of Ceramic Tube.

## SLIDE GATE REFRACTORIES:-

- i) Establishment of AZC Slide Plates
- ii) Establishment of Slide Gate nozzles
- iii) Development of Ultra Low Silica Tundish Spray Mass

## d) Expenditure on R&D:-

i)	Capital		_	Rs.69.05 Lakhs
ii)	Recurring	. *	_	Rs.15,44 Lakhs
iii)	Total		_	Rs.84.49 Lakhs

iv) Total R&D expenditure as a

Percentage of total turnover. – 0.28%