

## Directors' Report & Management Discussion and Analysis

TO THE MEMBERS OF  
ACC LIMITED

The Directors take pleasure in presenting the Seventy Eighth Annual Report together with the audited financial statements for the year ended December 31, 2013. The Management Discussion and Analysis has also been incorporated into this report.

### 1. HIGHLIGHTS OF PERFORMANCE

Consolidated income for the year decreased by 2% to ₹ 11,389 crore as compared to ₹ 11,621 crore in 2012. Consolidated profit before tax in 2013 was ₹ 1,214 crore as against ₹ 1,441 crore in 2012. Similarly, consolidated profit after tax was ₹ 1,095 crore as against ₹ 1,059 crore in 2012.

### 2. FINANCIAL RESULTS

	Consolidated		Standalone	
	₹ Crore		₹ Crore	
	2013	2012	2013	2012
Revenue from Operations(Net) and other income	11,388.55	11,621.47	11,392.73	11,622.78
Profit Before Tax (PBT)	1,213.64	1,440.99	1,226.96	1,451.49
Provision for Tax	131.91	391.08	131.20	390.30
<b>Profit After Tax (PAT)</b>	1,094.67	1,059.28	1,095.76	1,061.19
Balance brought forward from previous year	3,845.79	3,591.12	3,861.83	3,821.54
Adjustment pursuant to Amalgamation	-	-	-	(216.29)
Profit available for Appropriations	4,940.46	4,650.40	4,957.59	4,666.44

#### Appropriations:

Interim Equity Dividend	206.52	206.52	206.52	206.52
Proposed Final Equity Dividend	356.72	356.72	356.72	356.72
Tax on Equity Dividends	95.72	91.37	95.72	91.37
Previous Year Tax on Equity Dividends	2.76	-	2.76	-
General Reserve	120.00	150.00	120.00	150.00
Surplus carried to the next year's account	4,158.74	3,845.79	4,175.87	3,861.83

### 3. DIVIDEND

Your Directors are pleased to recommend a final dividend of ₹ 19/- per equity share of ₹ 10 each. The Company had distributed an interim dividend of ₹ 11/- per equity share of ₹ 10 each in August 2013. The total dividend for the year ended December 31, 2013 would accordingly be ₹ 30/- per equity share of ₹ 10 each which was the same as the dividend declared for the year ended December 31, 2012. The total outgo for the current year amounts to ₹ 658.96 crore, including dividend distribution tax of ₹ 95.72 crore as against ₹ 654.61 crore including dividend distribution tax of ₹ 91.37 crore in the previous year and ₹ 2.76 crore being the dividend distribution tax pertaining to previous year.

### 4. ECONOMIC SCENARIO AND OUTLOOK

Indian economic growth in 2013 had slowed down to 4.5%-5% which is the lowest in a decade. The high borrowing cost to combat inflation coupled with lower private consumption, low investment in infrastructure and other sectors were responsible for this. Although agriculture and allied sectors had shown improvement following a good monsoon and exports grew due to the depreciation in the value of the Indian Rupee, the economic growth was mainly pulled down by the contraction of the manufacturing sector.

The low economic growth appears to have bottomed out and a gradual increase in economic activity is expected from the middle of 2014.

### 5. CEMENT INDUSTRY OUTLOOK AND OPPORTUNITIES

The Indian Cement Industry has an installed capacity of ~350 million tonnes and the domestic consumption in the calendar year 2013 was ~260 million tonnes. Cement consumption had grown at the rate of 4% to 5% in the calendar year 2013. Although, cement consumption is believed to have a multiplying factor of 1.2 to the GDP growth, such lower than expected

consumption growth was mainly due to the high cost of borrowing and low investment in the infrastructure and commercial segments.

Your Company had a marginally negative volume growth during the last calendar year as our large capacity in South and West could not be placed in the market due to overcapacity in these regions and also on account of negative consumption growth in our key markets of Maharashtra and Karnataka. The sales volume was however, in line with other large cement manufacturers in India.

The overall cement demand is estimated to grow at the rate of 4% to 5% in the calendar year 2014. The consumption growth may pick up beyond 5% if investment is made in the infrastructure segment. With the gradual reduction in fiscal deficits and Consumer Price Index, it is expected that the interest rates would gradually come down which would stimulate demand in the housing sector. Even with a modest increase in the consumption growth, the cement industry will continue to have a huge capacity surplus in 2014, particularly in the South. Your Company's continued focus on cost reduction under the "Institutionalizing Excellence" programme, its thrust on increasing the sale of its premium products and various other customer excellence initiatives should help in presenting an improved performance.

### 6. CEMENT BUSINESS – PERFORMANCE AT A GLANCE

	2013	2012	Change %
Production - million tonnes	23.86	24.12	-1
Sales Volume - million tonnes	23.93	24.11	-1
Sale Value - (₹ crore)	10,908.41	11,130.45	-2
Operating EBITDA - (₹ crore)	1,628.79	2,195.57	-26

Your Company's constant focus on cost reduction through various efficiency improvement measures taken at the plants and in the areas of logistics under "Institutionalizing Excellence" programme helped in partially covering the high cost of inflation.

Introduction of premium products such as F2R, Concrete+, ACC Gold in the retail segment in many of our markets proved to be successful. It has been decided to replicate this success on an all India basis.

## 7. INSTITUTIONALIZING EXCELLENCE

In 2012, your Company had launched the Institutionalizing Excellence programme across all functions to sustain overall performance excellence so as to deliver superior value to customers and pursue cost leadership. The programme helped the Company offset inflationary pressure by managing its operating costs and enhancing customer value through improvements in manufacturing, sales, logistics and procurement processes. The Institutionalizing Excellence journey continues with a strong focus on Occupational Health & Safety.

In Manufacturing Excellence, some plants have already achieved and have even surpassed their individual aspirational targets in respect of plant performance such as clinker factor, thermal and electrical energy efficiencies. Efforts are now directed towards raising the overall efficiency parameters closer to the aspirational targets and pursue further reductions in input costs of coal, gypsum, slag and flyash.

The Customer Excellence programme continued to focus on measures to achieve volume and price improvement and steps for the enhancement of brand equity.

The Logistics Excellence journey saw visible and significant initiatives to optimize cost-to-serve and time-to-serve, reduce lead distances, eliminate multiple handling and

enable the creation of modern infrastructure at our plants and warehouses. The RFID and GPS modules which were successfully deployed at three plants are being replicated at all plants of the Company in a phased manner.

## 8. CAPEX

The on-going Jamul project in Chhattisgarh, which comprises a new state-of-the-art clinkering line of 2.79 million tonnes per annum capacity and a grinding facility of 1.10 million tonnes per annum capacity is progressing well and has reached its halfway mark. The project will be completed in a phased manner by mid 2015. During the year, work also commenced on the Sindri grinding unit in Jharkhand, which will receive clinker from the new Jamul plant.

Your Company's first Waste Heat Recovery Boiler plant, with an output of ~7.5 MW, was commissioned at the Galgal Cement Plant in Himachal Pradesh.

## 9. READY MIXED CONCRETE (RMX)

The Company's RMX business turned around during the year with its operating EBITDA improving substantially to ₹ 19.61 crore from ₹ 2.1 crore in the previous year, though concrete sales volume increased marginally. The improvement in profitability was mainly a result of close monitoring of operating and logistic costs and offering our customers value added products and solutions. Customer focus has been sharpened by widening the customer base and by leveraging the cement sales network to target the retail segment.

The RMX market in the country has become more fragmented and competitive with many new entrants from the unorganized segment. Larger investments are foreseen in real estate and infrastructure projects across India in the coming year leading to growth in the construction sector. The increased demand is expected to come from the markets of Mumbai, Chennai

and Bengaluru. The Company is taking suitable steps to consolidate its RMX business by striving to increase volumes from its existing assets, through on-site and commercial projects.

	2013	2012	Change %
Production - Lakh Cubic Meters	15.96	16.54	-4
Sales Volume - Lakh Cubic Meters	18.00	17.97	-
Sale Value - (₹ crore)	655.91	617.06	6
Operating EBITDA - (₹ crore)	19.61	2.12	825

## 10. SUSTAINABLE DEVELOPMENT

Sustainability is an integral part of our business philosophy. The Company is in the process of consolidating inputs for a new roadmap for sustainable development for the period 2014-2017.

The cement operations of your Company are certified under various management systems for quality, environment and safety. In addition to Corporate Social Responsibility (CSR), Human Resources (HR) and Occupational Health & Safety (OH&S), which are addressed later in this report, the important initiatives of your Company's sustainable development agenda include reduction in CO<sub>2</sub> emissions, reduction in stack and fugitive emissions, water management and biodiversity.

### 10.1 CO<sub>2</sub> Emissions:

Your Company co-chaired the group involved in developing a Low Carbon Technology roadmap for the Indian Cement Industry under the aegis of the Cement Sustainability Initiative in India (CSI) of World Business Council for Sustainable Development (WBCSD). The roadmap comprises a comprehensive plan to achieve reduction in direct emissions leading upto the year 2050. This is the first plan of its kind which is a

country-specific and sector-specific long term action plan to cut CO<sub>2</sub> emissions and mitigate climate change risks. Keeping in mind these reduction targets, your Company is working on the following levers simultaneously:

- increasing the use of Alternative Fuels and Raw materials (AFR).
- reducing Thermal Energy and Electrical Energy.
- reducing clinker factor by producing blended cements using industrial waste materials like flyash and slag.
- increasing the use of renewable energy.
- waste heat power generation from process waste heat.

Efforts in these areas helped your Company to maintain a leadership position in reduction of CO<sub>2</sub> emissions in the country, as illustrated by the following:

- specific CO<sub>2</sub> emissions for Portland Pozzolona Cement (PPC) during the year was 529 kg CO<sub>2</sub> / tonne of cement as compared to 545 kg CO<sub>2</sub> / tonne of cement in the previous year.
- specific CO<sub>2</sub> emissions for Portland Slag Cement (PSC) during the year was 352 kg CO<sub>2</sub> / tonne of cement as compared to 367 kg CO<sub>2</sub> / tonne of cement in the previous year.

The above reduction helped the Company to maintain overall specific CO<sub>2</sub> emissions, at 538 kg CO<sub>2</sub> / tonne of cement despite increase in the production of Ordinary Portland Cement.

#### 10.1.1 Alternative Fuels and Raw Materials (AFR):

Your Company's initiatives in utilizing Alternative Fuels and Raw Materials (AFR) in the cement manufacturing process is gaining momentum in an effort to mitigate the rising cost of conventional fossil fuels and raw materials. Forty six co-processing

trials of different waste materials have so far been carried out after obtaining necessary clearances from the concerned authorities at the State and Centre levels. These trials have demonstrated that co-processing is environmentally and ecologically a more sustainable technology for managing waste than other technologies that are in practice today, such as landfill and incineration. Our waste management services through cement kiln co-processing are gaining wider acceptance.

Based on the demonstrated success of the suitability of co-processing technology for waste streams, the Company has received clearances for co-processing 127 different waste streams generated by diverse industry segments such as automobiles, chemicals, engineering, power, steel, refineries and petrochemicals. During the year under review, the Company conducted seven co-processing trials of different waste materials. Twenty three new industries accepted the co-processing services offered by the Company as a result of which thirty two new streams for co-processing have been added in various plants. Currently, different types of waste streams are being co-processed from industrial, agricultural and municipal sources as AFR.

During the year 2013, a quantum leap was achieved in the usage of AFR, thereby enabling a Thermal Substitution Rate (TSR) of 4.36% against a target of 4.12%. The focus on AFR, enabled your Company to reduce fuel consumption in kilns, captive power plants and in dryers.

Your Company is also engaged in co-processing segregated non-recyclable plastic waste from municipal solid waste, thereby assisting Society with the disposal of

plastic waste. Your Company is in an active engagement with fifteen municipalities and local bodies in this regard and has co-processed 433.38 tonnes of non-recyclable plastics during the year.

To increase the AFR utilization substantially, three pre-processing platforms are being set up at our plants which will prepare AFR material of uniform quality from various kinds of wastes that have different types of physical and chemical characteristics. Two of these facilities are expected to be ready during the course of this year.

#### **10.1.2 Reduction of Thermal Energy:**

Many initiatives were taken to reduce specific thermal energy in the manufacture of clinker as part of the Manufacturing Excellence initiatives, which resulted in a reduction of 10 MJ specific thermal energy / tonne of clinker as compared to 2012. In many plants, higher percentage of petcoke is being used to reduce the cost of thermal energy and coal costs.

#### **10.1.3 Clinker Factor:**

Clinker Factor in both varieties of blended Cements viz. Portland Pozzolana Cement (PPC) and Portland Slag Cement (PSC) was reduced through product innovation and research efforts.

Your Company's blended Cement initiatives is one of the biggest Clean Development Mechanism (CDM) project of its kind in the Indian Cement Industry. Continuous efforts to control clinker content in PPC has helped in reducing CO<sub>2</sub> emissions over a period of four years in four plants and this is currently under review for issuance of 8,46,313 CERs (Certified Emission Reductions) by United Nations Framework Convention on Climate Change (UNFCCC).

**10.1.4 Renewable Energy:**

Your Company's Renewable Energy portfolio consists of 19 MW in the form of wind farms across three states viz. 9 MW in Tamil Nadu, 7.5 MW in Rajasthan and 2.5 MW in Maharashtra. Cumulatively, a total of 23.53 million units of wind power has been generated. These units helped the Company meet its non-solar renewable purchase obligation for Madukkarai and Lakheri Plants.

In Maharashtra, the Company was issued Renewable Energy Certificates (RECs), besides meeting the power needs of our Thane complex and part of the requirement of our Subsidiary Company, Bulk Cement Corporation (India) Limited at Kalamboli. The non-solar renewable power obligations of other plants viz. Wadi, Kymore, Bargarh, Tikaria and Jamul were met by purchasing RECs.

The Tamil Nadu Wind Mill Project realized 21,745 CERs from UNFCCC.

**10.1.5 Waste Heat Power generation from process waste heat:**

The Waste Heat Recovery System at Gagal is expected to reduce 44,180 tonnes of CO<sub>2</sub> per annum. This is an important milestone in the Company's sustainable development journey.

**10.2 Stack Emissions and Fugitive Emissions:**

The Company has implemented various initiatives/measures for improving the environmental performance of its Plants. The current average Kiln Stack emissions are <30mg/Nm<sup>3</sup>, as against the regulatory compliance requirement of 30mg/Nm<sup>3</sup>. The specific kiln dust emissions per tonne of cement have decreased by ~18% as compared to the previous year. This was achieved through

various measures like conversion of Electrostatic Precipitators (ESPs) to Baghouse and installation of Polytetrafluoroethylene (PTFE) membrane filter bags in place of conventional filter bags. Many initiatives were undertaken to minimize fugitive as well as stack emissions across all Plants. These include installation of dust suppression systems, dust extraction systems for material handling, loading, unloading areas of raw materials, intermediate and finished products. In some plants, covered storage has been provided to prevent fugitive emissions. On-line continuous ambient air quality monitoring stations were installed in some plants to monitor environment parameters.

**10.3 Water-positive initiatives:**

Your Company has adopted a two pronged strategy i.e. working simultaneously on reducing fresh water intensity by reducing water demand in process / non-process needs and waste water recycling after treatment, whilst simultaneously working on rain water harvesting in plants, mines, housing colonies and community areas.

During the year 2013, the Company's specific water consumption per tonne of cement was reduced by 2%. As part of its water-positive initiatives, the Company has taken up many water harvesting schemes during the year. Installation of water metering systems and increasing the usage of recycled water will help the Company to become water-positive in the near future.

**10.4 Biodiversity:**

As part of your Company's overall objective to create a positive impact on biodiversity, a risk assessment exercise of all mines has been carried out and various initiatives are being undertaken in this regard. The green belt area in all cement plants is being increased to maintain at least 33% as green coverage. During the year 2013, approximately 1 lakh trees were planted under afforestation programmes across all plants.

## 11. COMMUNITY DEVELOPMENT

The Board of Directors constituted a Corporate Social Responsibility (CSR) Committee which reviewed and restated the Company's CSR policy in order to make it more comprehensive and aligned with the activities specified in Schedule VII of the Companies Act, 2013. The new policy statement emphasizes the purpose of delivering superior and sustainable value to our stakeholders and simultaneously indicates key performance areas and specific deliverables mainly in respect of education, health & sanitation and sustainable livelihoods.

During the year 2013, the Company's community development efforts successfully touched the lives of almost 6 lakh people spanning ~130 villages across the country. Overall CSR expenditure incurred during the year was ₹ 22.76 crore.

Efforts to enhance the quality of education in the plants neighbourhood schools benefitted approximately 18,000 students during the year. Scholarships were awarded to 650 meritorious students from weaker sections of society to help them continue their education. Technology aided education initiatives like smart classes and interactive kiosks in rural schools reached out to about 12,700 rural children to keep pace with modern methods of learning. Specific support was provided to revive education to about 850 girl children who had dropped out of school. The Company continued to support 7 Government run ITIs under the Public Private Partnership Schemes with Ministry of Labour and Employment, Government of India.

Skill development training programmes were imparted to unemployed youth in partnership with specialized NGOs, which helped about 2,500 youth get job placements in various manufacturing and service sector enterprises. Your Company supported the formation of 737 Self Help Groups (SHGs) and their strengthening through structured training activities. Members of these SHGs saved close to ₹ 1.50 crore which

helped them to secure matching grants from banks and other financial institutions to start micro-enterprises.

In matters of health and nutrition, your Company's initiatives benefitted more than 1 lakh people. Support to 102 "anganwadi centres" helped approximately 3,000 children get access to better health and nutrition. Nearly 1,500 HIV/AIDS affected persons were supported through counselling, testing and treatment.

Your Company supported the process of Aadhaar enablement of the local communities to enhance their access to government subsidies and entitlements. A substantial part of the people living around our plants now have Aadhaar identification cards.

Your Company has also been engaged in leadership roles in CSR at various platforms. ACC has been nominated as an Industry representative in the Global Fund for India's Country Co-ordination Mechanism on Health. The Company has also been appointed in the CII's Sanitation Committee to promote initiative of Government of India on better sanitation coverage in India.

Your Company was quick to respond in providing timely relief to the people affected in two major disasters that struck the nation in 2013. The Chief Minister of Uttarakhand acknowledged the prompt efforts and unstinted help rendered by the Company's employees to the victims of the landslide and flash floods in June 2013.

## 12. OCCUPATIONAL HEALTH & SAFETY (OH&S)

In pursuit of ensuring "No harm anywhere to anyone associated with ACC", Occupational Health & Safety (OH&S) remains the Company's top priority. Accordingly, the endeavour in 2013 was to instill OH&S as our license to lead. Through widely communicated initiatives such as "Suraksha Laher", efforts were directed to create an appropriate infrastructure, improve OH&S systems to make them more robust by

identifying and addressing deficiencies and by building OH&S capabilities of line and functional personnel.

There was a new thrust on visible leadership in creating a structure within plants that ensures accountability and incorporates a concept of Zone ownership. A Centre of Excellence has been created to implement safety processes and systems uniformly at all plants, for capability building and for sharing experiences and best practices. The centre has three fulltime executives to implement OH&S priority areas. It is also intended to involve and engage Shop Floor Associates (SFAs) and contract workers to identify their safety concerns and execute safety projects with a view to achieve focused improvements in their respective work areas. The behaviour based safety initiative "ACC Chetna", launched in 2012, continued to form part of the basic behaviour expected as a practice from employees to prevent incidents.

Reaching beyond plant operations, your Company also addressed the subject of Logistics Safety to prevent vehicle related incidents. This programme included carefully planned interventions in people development and training in safe driving for drivers. Plant-level health and safety checks have been initiated in phases with the help of external consultants. The safety checks include examination of factors influencing vehicular safety such as overall plant layout, packing house layout, truck parking yards, inward and outward flow of traffic, storage areas and infrastructure for road and rail transport.

Various steps were taken to demonstrate that health constitutes an essential part of Occupational Health & Safety. The focus on occupational health in the areas of health surveillance, upgradation of emergency medical response and pro-wellness programmes helped save valuable lives while reducing health risk factors.

### 13. HUMAN RESOURCES

Success of any organization depends upon the engagement and motivation levels of its employees. In Human Resources, our emphasis was to give autonomy to people at different levels and create a sense of ownership in order to unleash their potential.

The Human Resources Division has played a significant role in achieving the overall business objectives by creating a common vision, building capability amongst people and more importantly, involve and engage employees in improvement programmes across the functions for achieving higher results. This process of engagement and involvement through special projects has created learning opportunities for the employees.

To support business, processes were re-engineered to bring about various changes in systems in order to provide proactive support. Some of the initiatives are as under:

- Recruitment and On-Boarding – Right-fit talent is hired and exposed to a year-long induction programme in newly created On-Boarding Centers.
- Employee Engagement Programmes – Employee feedback through various surveys conducted show that the employees are experiencing a greater sense of engagement. This has been achieved through various on-the-job engagement initiatives.
- Organization Excellence – The Company has carried out a variety of initiatives in this regard, after benchmarking Indian and Global best-in-class organization designs.
- Skill Enhancement – A plan has been put in place for upgrading the skills of SFAs through training and engaging them in a variety of improvement programmes to enable them to align with business and perform better. The unions and other stakeholders are highly appreciative of this initiative.

- Capability Building – Your Company believes that capability can be built by hands-on experience and exposure. Series of programmes are being conducted whereunder a large number of middle and senior level leaders are assigned various turnaround projects. A continuous monitoring as well as a recognition and reward model has also been created around this initiative to encourage and recognize people in larger forums.
- Creating a future leadership pipeline – With a view to motivating and retaining talent and providing growth opportunities for them in their respective work areas, identified talent has been given new challenges through engagement, mobility and special projects.
- Proactive Industrial Relations – A great deal of time is spent in engaging Unions and sharing relevant information with them to enable them to participate in the growth journey.

## 14. FINANCE

Your Company's cash and cash equivalent as at December 31, 2013 was ₹ 2,621 crore. The Company continues to focus on judicious management of its working capital. Receivables, inventories and other working capital parameters are kept under strict check through continuous monitoring. The Company's debt programme continues to enjoy an "AAA" rating from CRISIL.

During the year under review, the Company had given an option of premature redemption of Non-Convertible Debentures to the holders of its Privately Placed Debentures.

Non-Convertible Debentures of the aggregate value of ₹ 105 crore, stand prematurely redeemed whilst debentures of the aggregate value of ₹ 20 crore, stand redeemed on maturity as on December 31, 2013.

As on date, Non-Convertible Debentures aggregating ₹ 32 crore remain outstanding.

## 15. FIXED DEPOSITS

Despite efforts to identify and repay unclaimed deposits, the total amount of fixed deposits matured and remaining unclaimed as on December 31, 2013 was ₹ 0.02 crore.

## 16. SUBSIDIARY COMPANIES

### 16.1 ACC Mineral Resources Limited (AMRL)

The wholly owned Company ACC Mineral Resources Limited is a Joint Venture Partner in four Coal Blocks allotted by the Madhya Pradesh State Mining Corporation Limited (MPSMC).

Preliminary and pre-development activities in the three Coal Blocks out of four are in progress. The Bicharpur Coal Block in the Shahdol District is in an advanced stage of development and will cater to the coal requirement of some of your Company's cement plants when it becomes operational. Various clearances for Marki Barka Coal Block in Singrauli are in an advanced stage and a detailed project report for the Block is under preparation. The exploration activity in Morga IV Coal Block is expected to take place after the clearance from the Ministry of Environment & Forests.

In January 2013, the Semaria Piparia Coal Block was de-allocated by the Ministry of Coal on the grounds of non-receipt of forest and environmental clearances from the Ministry of Environment and Forests, in view of the block's proximity to the National Tiger Reserve at Bandhavgarh. On a Writ Petition filed by MPSMC and the Semaria Joint Venture Company, partial relief in the matter has been granted by the High Court at Jabalpur.

### 16.2 Bulk Cement Corporation (India) Limited (BCCI)

During the year under review, BCCI handled cement volumes of 9.60 lakh tonnes as against 9.20 lakh tonnes in 2012. The profit after tax for the year 2013 is ₹ 270.94 lakhs as against ₹ 179.81 lakhs in the year 2012.

### 16.3 Audited Financial Statements of Subsidiary Companies

As required under Section 212 of the Companies Act, 1956, the audited financial statements along with the report of the Board of Directors relating to the Company's subsidiaries viz. ACC Mineral Resources Limited, Bulk Cement Corporation (India) Limited, Lucky Minmat Limited, National Limestone Company Private Limited and Singhania Minerals Private Limited together with the respective Auditors' Reports thereon for the year ended December 31, 2013 are annexed.

## 17. DIRECTORS

The Board has appointed Mr Farrokh K Kavarana as an Additional Director of the Company with effect from May 3, 2013. In accordance with Section 161 of the Companies Act, 2013 (corresponding to Section 260 of the Companies Act, 1956), Mr Kavarana holds office upto the date of the forthcoming Annual General Meeting of the Company and his candidature for appointment as a Director has been included in the Notice convening the forthcoming Annual General Meeting of the Company.

The Board has appointed Mr Bernard Terver as an Additional Director of the Company with effect from December 4, 2013. In accordance with Section 161 of the Companies Act, 2013 (corresponding to Section 260 of the Companies Act, 1956), Mr Terver holds office upto the date of the forthcoming Annual General Meeting of the Company and his candidature for appointment as a Director has been included in the Notice convening the forthcoming Annual General Meeting of the Company.

At the request of Life Insurance Corporation of India, the Board has appointed Mr V K Sharma, Managing Director, Life Insurance Corporation of India, as an Additional Director of the Company with effect from February 6, 2014. In accordance with Section 161 of Companies

Act, 2013 (corresponding to Section 260 of the Companies Act, 1956), Mr Sharma holds office upto the date of the forthcoming Annual General Meeting of the Company and his candidature for appointment as a Director has been included in the Notice convening the forthcoming Annual General Meeting of the Company.

The Board has re-appointed Mr Kuldip Kaura as Chief Executive Officer & Managing Director for a period of one year with effect from January 1, 2014. The Members of the Company had approved of the aforesaid re-appointment and the terms of remuneration of Mr Kaura by way of a postal ballot, pursuant to which the Company has entered into an agreement with Mr Kaura detailing therein his terms of re-appointment and remuneration.

In accordance with the provisions of the Companies Act, 1956, and in terms of the Memorandum and Articles of Association of the Company, the following Directors, viz. Mr Aidan Lynam, Mr Sushil Kumar Roongta and Mr M L Narula retire by rotation and are eligible for re-appointment.

## 18. INTERNAL CONTROL SYSTEMS AND THEIR ADEQUACY

The Company has an Internal Control System, commensurate with the size, scale and complexity of its operations. The scope and authority of the Internal Audit (IA) function is defined in the Internal Audit Charter. To maintain its objectivity and independence, the IA function reports to the Chairman of the Audit Committee of the Board.

The Internal Audit Department monitors and evaluates the efficacy and adequacy of the internal control system in the Company, its compliance with operating systems, accounting procedures and policies at all the Company's locations, and its Subsidiaries. Based on the report of internal audit function, process owners undertake corrective action in their respective

areas and thereby strengthen the controls. Significant audit observations and corrective actions thereon are presented to the Audit Committee of the Board.

## 19. BUSINESS RISK MANAGEMENT

Your Company has a robust process to identify and assess business risks and opportunities. The Business Risk Management (BRM) activity is monitored both at the Corporate and at regional levels. Risks and opportunities so identified are integrated into the business plan and a detailed action plan to mitigate identified risks is drawn up and its implementation monitored. Key business risks identified by the Company fall into areas of fuels, projects, competition and OH&S. These risks together with plans for their mitigation are as under:

### Fuels Risk:

Cement production is an energy-intensive process that requires large quantities of coal to meet its kiln and captive power generation requirements; hence, consistent supply of this fuel at reasonable and stable prices is a major concern for the Company. Erratic supplies of coal due to domestic production constraints and price fluctuations would adversely impact the input costs for an industry as dependent on coal as the Cement Industry. The Company is gradually increasing the use of alternative fuels and is optimizing its coal mix. To hedge this risk, your Company has through its Subsidiary Company ACC Mineral Resources Limited, entered into Joint Venture with Madhya Pradesh State Mining Corporation Limited for developing four coal block as earlier indicated. The Bicharpur Coal Block when developed would partly meet the coal requirement of some of the Company's Cement Plants.

### Project Risks:

The Cement Industry is capital intensive in nature. Its Compound Annual Growth Rate

(CAGR) for the next five years is expected to be ~7 %. In the execution of large projects which are highly capital intensive in nature, there could be exposure to time and cost overruns. To mitigate these risks, the Company has strengthened its project management team as well as its project accounting and governance framework. Whilst the Company continues to draw on Holcim's expertise, a separate organizational structure at Project sites with defined roles and accountability has been put in place for large projects.

### Competition Risks:

The Cement Industry is becoming intensely competitive with the foray of new entrants and some of the existing players adopting inorganic growth strategies. To mitigate this risk, the Company is leveraging its capacities to increase market share, enhance brand equity and visibility, enlarge product portfolio and service offerings. It would also leverage on its Infrastructure, Commercial and Institutional Sales teams to offer value to large customers.

### OH&S Risks:

The Cement Industry is labour intensive and hence the safety of employees and workers is of utmost importance to the Company. To reinforce the safety culture in the Company, it has identified Occupational Health & Safety as a focus area of overriding importance. The Company already has a robust approach to tackle this risk through various programmes in all its Plants and Sales Units as detailed in para 12 of this Report.

## 20. AWARDS

During the year under review, your Company received many awards and felicitations conferred by reputable organizations for achievements in different areas such as Safety, Manufacturing Excellence and Environment Management. Your Company was recognized as one of India's most

sustainable companies and was presented the CII-ITC Sustainability Prize under the category of large manufacturing companies which is a notable recognition.

## 21. ENHANCING SHAREHOLDERS' VALUE

The processes of the Secretarial & Compliance Division, Share Department and ISD Support, comply with ISO 9001:2008 as certified by Det Norske Veritas AS for the robustness of quality management processes.

Your Company believes that its Members are among its most important stakeholders. Accordingly, your Company's operations are committed in the pursuit of achieving high levels of operating performance and cost competitiveness, consolidating and building for growth, enhancing the productive asset and resource base and nurturing overall corporate reputation. Your Company is also committed to creating value for its other stakeholders by ensuring that its corporate actions positively impact the socio-economic and environmental dimensions and contribute to sustainable growth and development.

## 22. DIRECTORS' RESPONSIBILITY STATEMENT

To the best of their knowledge and belief and according to the information and explanations obtained by them, your Directors make the following statement in terms of Section 217(2AA) of the Companies Act, 1956:

- that in the preparation of the annual accounts for the year ended December 31, 2013, the applicable accounting standards have been followed along with proper explanation relating to material departures, if any;
- that such accounting policies as mentioned in Note 2 of the Notes to the Financial Statements have been selected and have been applied consistently and judgement and estimates have been made that are

reasonable and prudent so as to give a true and fair view of the state of affairs of the Company as on December 31, 2013, and of the profit of the Company for the year ended on that date;

- that proper and sufficient care has been taken for the maintenance of adequate accounting records in accordance with the provisions of the Companies Act, 1956, for safeguarding the assets of the Company and for preventing and detecting fraud and other irregularities;
- that the annual accounts have been prepared on a going concern basis.

## 23. AUDIT

The Company's Auditors Messrs S R Batliboi & Co LLP, Chartered Accountants, who are the Statutory Auditors of the Company and who hold office upto the date of the Annual General Meeting, have, arising out of their internal restructuring, expressed their inability to continue as Auditors of the Company.

Messrs S R Batliboi & Co LLP, were appointed as Auditors of the Company in 2012. The Board has placed on record its appreciation of the services rendered by the Auditors.

The Members are requested to appoint S R B C & CO LLP (ICAI Firm Registration No. 324982E) one of the four firms in the overall S R Batliboi & Co network, as the Auditors of the Company for the year 2014 and to authorize the Board of Directors to fix their remuneration as per Item 6 of the Notice. S R B C & CO LLP have confirmed their eligibility under Section 224 of the Companies Act, 1956, for appointment as Auditors of the Company.

As per the requirement of the Central Government and in pursuance of Section 233B of the Companies Act, 1956, your Company carries out an audit of cost records relating to cement each year. Subject to the approval of the Central

Government, your Directors have appointed Messrs N I Mehta & Co to audit the cost accounts of the Company for the financial year 2013.

#### **24. CORPORATE GOVERNANCE**

As per Clause 49 of the Listing Agreement with the Stock Exchanges, a separate section on corporate governance practices followed by the Company, together with a certificate from the Company's Auditors confirming compliance, is set out in the Annexure forming part of this Report.

#### **25. BUSINESS RESPONSIBILITY REPORTING**

As per Clause 55 of the Listing Agreement with the Stock Exchanges, a separate section on Business Responsibility forms part of this Annual Report.

#### **26. CONSOLIDATED FINANCIAL STATEMENTS**

The Consolidated Financial Statements of the Company prepared in accordance with relevant Accounting Standards viz. AS 21, AS 23 and AS 27 issued by the Institute of Chartered Accountants of India form part of this Annual Report.

#### **27. ENERGY, TECHNOLOGY AND FOREIGN EXCHANGE**

The information on conservation of energy, technology absorption and foreign exchange earnings and outgo stipulated under Section 217(1)(e) of the Companies Act, 1956, are furnished in Annexure 'A' to the Directors' Report.

#### **28. PARTICULARS OF EMPLOYEES**

The information required under Section 217 (2A) of the Companies Act, 1956, read with Companies (Particulars of Employees) Rules, 1975 as amended, in respect of the employees of the Company, is provided in the Annexure forming part of this Report. In terms of Section 219(1)(b)(iv) of the Act, the Report and Accounts are being sent to the Members and others entitled thereto, excluding the aforesaid Annexure which is available for

inspection by the Members at the Registered Office of the Company during business hours on working days of the Company upto the date of the ensuing Annual General Meeting. If any Member is interested in obtaining a copy thereof, such Member may write to the Company Secretary in this regard.

#### **29. ACKNOWLEDGEMENTS**

Your Directors thank the various Central and State Government Departments, Organizations and Agencies for the continued help and co-operation extended by them. The Directors also gratefully acknowledge all stakeholders of the Company viz. customers, shareholders, dealers, vendors, banks and other business partners for the excellent support received from them during the year. The Directors place on record their sincere appreciation to all employees of ACC for their unstinted commitment and continued contribution to the Company.

#### **30. CAUTIONARY STATEMENT**

Statements in the Directors' Report and the Management Discussion & Analysis, describing the Company's objectives, expectations or forecasts, may be forward-looking within the meaning of applicable securities, laws and regulations. Actual results may differ materially from those expressed in the statement. Important factors that could influence the Company's operations include global and domestic demand and supply conditions affecting selling prices of finished goods, input availability and prices, changes in government regulations, tax laws, economic developments within the country and other factors such as litigation and industrial relations.

For and on behalf of the Board of Directors

N S Sekhsaria  
Chairman

Mumbai  
February 6, 2014

## Annexure 'A' to Directors' Report

Section 217(1)(e) of the Companies Act, 1956, read with the Companies (Disclosure of Particulars in the Report of Board of Directors) Rules, 1988.

Sustainability is at the core of ACC's business philosophy and has become a part of its DNA. In this direction, as a part of manufacturing excellence, ACC implements many initiatives in the areas of Energy and Environment. Few initiatives in these areas are as given below:

### A: CONSERVATION OF ENERGY

#### (a) Energy conservation and efficiency measures were undertaken in various areas of the cement plants:

- Thondebhavi Plant commissioned Medium Voltage (6.6 KV) Variable Speed Drives for Bag House Fan & Low Voltage Variable Speed Drives for Compressors and Bag Filter Fans.
- Madukkarai Plant commissioned Medium Voltage (6.6 KV) Variable Speed Drive for Kiln Exhaust fan; commissioned Low Voltage Variable Speed Drives for forced draft fans of cooler, and vacuum pumps; replaced impeller of cooler fan 3 & 4 with energy efficient impellers, replaced compressor with PD blower for Side Line Calciner firing.
- Jamul Plant commissioned Low Voltage Variable Speed Drives for Raw Mill 2 Dust Collector Fan, Coal Mill 1 & 2 Circulating Fan, Coal Mill 2 Dust Collector Fan, Cement Mill 7 & 8 Dust Collector Fan.
- Lakheri Plant commissioned Medium Voltage (6.6 KV) Variable Speed Drives for the Calciner Fan and E-Mill Fan; commissioned Low Voltage Variable Speed Drives for Cooler Fans, Cement Mill Compressors, Process Dust Collector Fans in plant and Primary Air Fans, Auxiliary Cooling Water Pump in Captive Power Plant; Reduced cooler exhaust gas flow from 1.2 to 1.0 Nm<sup>3</sup>/kg Clinker by attending cooler plate to plate gaps, inter & under compartment sealing & Use of Pneumatic Double flap gates for arresting false air from cooler. This helped to reduce cooler exhaust gas temperature from 240 deg C to 220 deg C, which resulted in better heat recuperation in cooler;
- Bargarh plant commissioned Low Voltage Variable Speed Drives for clinker cooler Forced Draft fans and 2 Nos Primary & Secondary Air Fans for CPP.
- Chanda Plant commissioned Medium Voltage (3.3 KV) drives for Cement Mill 1 & 2 Separator Fans; commissioned Low Voltage Variable Speed Drives for Compressors & Installation of VFD for Belt Conveyors;
- Kymore Plant replaced Kiln 1 bag house fan Impeller with energy efficient impeller and modified ducting from bag house outlet to fan inlet to reduce fan consumption. Medium voltage (6.6 KV) variable speed drive has been installed which will be commissioned during next stoppage; 3.3 KV motors were converted to 415 V along with Low Voltage Variable Speed Drives for Separator Fans of Cement Mills 1 & 8. Low Voltage Variable Speed Drives were also commissioned for vent fans of Cement Mills 1, 8 & 9; Kiln 1 Clinker Cooler was modified from Controlled Flow Grate (CFG) to Reduced Fall Through (RFT) to improve Cooler Heat Recuperation.
- Gagal Plant retrofitted existing GRR controls by installing Medium Voltage (6.6KV) Variable Speed Drives for Pre-heater Fan, VRM Fan, Bag House Fan and Separator Fans for Gagal 2; Replaced VRM Fan, Kiln String Fan, Cooler Forced Cooling Fan, Separator Fans for Cement Mills 1,2 & 3 with energy efficient fans; Commissioned Low Voltage variable speed drives for separator fans of Cement Mill 3,4 & 5. bag house fan for Cement Mill 3 & 4; dust collector cleaning operation converted from timer based to Differential Pressure based cleaning to avoid excessive cleaning and optimising compressed air consumption. It also commissioned the 8.0 MW Waste Heat Recovery Power Generator during the year. It is expected to generate 7.2 MW (Net) at full load.

- Wadi Plant improved Raw Mill #2 Production Rate Index (PRI) from 515 to 540 by Installation of FOL (force oil lubrication system) system for Main Motor bearing cooling, increasing the roller lifting height from 200 mm to 250mm, stage wise reduction of dam ring from 85 mm to 65 mm WG and partial blocking of nozzle ring for desired velocity profile; high Vibration Level in separator of Raw mill was corrected by Increasing the clearance between feed chute & Separator rotor from 5 mm to 75 – 80mm; Low Voltage Variable Speed Drive was installed for Lime Stone Stacker bogie drives and modified logic of stacker for running in auto mode fully whereby plant is able to maintain the homogenous limestone pile; Variable Speed Drives were installed for Raw Mill Vent Fan 1,2,&3, Cement Mill Vent Fans and 4 Nos Primary Air Fans.
- Tikaria Plant commissioned VFD for Coal Handling Bag Filter Fan; Modified water circulation line of Pregrinder (PG) circuit to stop the complete cooling tower along with circulation pump of PG circuit.
- Chaibasa Plant commissioned Medium Voltage (6.6KV) variable speed drive for Bag House fan, it commissioned variable speed drive for reverse air fan and revived PID Loop control of RA fan speed with respect to Bag house Differential Pressure; commissioned Medium Voltage (6.6KV) variable speed drive for Coal Mill Fan; Reduced Raw Mill Fan Power by changing of fan impeller and also individual cyclone study and modification; Improved the reliability of cement mill separator and Elevator by separator Cone replacement, Gear box base plate replacement & Elevator modification to increase mill output.
- Sindri Plant converted the 3.3 KV motors to 690 V and commissioned Low Voltage Variable Speed Drives for VRM ID Fan
- Kudithini Plant commissioned Low Voltage Variable Speed Drives for Packing plant Bag Filter Fans, Compressor and Water pump. Replaced Reciprocating compressor (150 kW) with PD blower (55 kW) along with VVFD for fine coal conveying to Hot Air Generator; stopped operation of two compressors of 90 KW by integrating compressed air line with main compressor (132 KW)
- Vizag Plant installed 24W Solar Lights to replace 250W MV street lights; installed 45 KVA Lighting Transformer for optimisation of lighting voltage.
- A detailed Energy Audit was conducted at Tikaria, Madukkarai, Thondebhavi, Bargarh and Chanda plants, and detailed compressed air audit was conducted at Kudithini plant.
- Energy Monitoring System was commissioned at Sindri & Tikaria
- Capacitor banks have been added to the system across ACC plants to improve plant power factor and also to reduce harmonics.
- Replacement of conventional lamps with Compact Fluorescent Lamps & LED light for plant and colony lighting was done across ACC plants.
- ISO 50001 certification audit was conducted for Thondebhavi, Kudithini and Wadi Plants.
- Thondebhavi Plant was awarded Certificate of Merit by BEE as part of National Energy Conservation Award's 2013; Jamul, Lakheri Kymore and Thondebhavi Plants were awarded by Confederation of Indian Industries; Jamul and Gagal Plants were felicitated by National Council for Cement & Building Materials.

#### **Green power –**

- ACC Renewable Energy Portfolio consists of 19 MW in the form of Wind Farms across 3 states viz. 9 MW in the state of Tamil Nadu, 7.5 MW in the state of Rajasthan and 2.5 MW in the state of Maharashtra. Cumulatively, we have generated 32.53 Million Units of green power. (Rajasthan - 11.02 Million Units, Tamil Nadu - 18.12 Million Units, Maharashtra - 3.39 Million Units).
- These units helped ACC to meet the Renewable Purchase Obligation (Non-Solar) for Madukkarai Plant

(TN) & Lakheri Plant (Rajasthan) fully. In Maharashtra, we were issued Renewable Energy Certificates (RECs) besides meeting the Thane complex power needs and also part requirement of BCCI Kalamboli.

- The Renewable Power Obligation (Non-Solar) of other plants (Wadi in Karnataka, Kymore in Madhya Pradesh, Bargarh in Orissa, Tikaria in Uttar Pradesh, Jamul in Chhatisgarh) were met by purchasing Renewable Energy Certificates.
- We are in advanced talks to consume Green Power in Karnataka state (Kudithini and Thondebhavi plants), to meet our Non-Solar RPO for Wadi plants. Likewise, we are pursuing Power Purchase Agreement (Green Power) for other states, besides exploring options of setting up Wind Farms.

**(b) Additional Proposals being implemented to further the drive for energy conservation**

- Installation of Medium Voltage and Low Voltage Variable Speed Drives.
- Replacement of existing fans with high efficiency fans
- Replacement of pumps with high efficiency pumps
- Replacement of multiple compressors with single compressors
- Replacement of Motors with high efficiency motors
- Improve Air Conditioning and Lighting loads
- Install additional capacitors to improve power factor
- Process optimisation

This will ensure further saving in electrical energy during 2014, as well as achieve better process controls.

**(c) Impact of the above measures for reduction of energy consumption and consequent impact on cost of production -**

The measures stated in points (a) and (b) above would further improve the thermal and electrical energy efficiency of the Plants. During the year 2013, the electrical energy reduced by 3.55% and thermal energy reduced by 0.33 %.

**Environmental Performance:**

CO<sub>2</sub> Performance:

- ACC's overall Specific CO<sub>2</sub> emissions excluding emissions from CPP are 538 Kg CO<sub>2</sub> / T of Cement.
- ACC's Specific CO<sub>2</sub> emissions for Portland Pozzolona Cement: 529 Kg CO<sub>2</sub>/T of Cement.
- ACC's Specific CO<sub>2</sub> emissions for Portland Slag Cement: 368 Kg CO<sub>2</sub>/T of Cement.

This performance is better than the country's average CO<sub>2</sub> performance of 2010 - 719 Kg CO<sub>2</sub>/T of Cement as indicated in Low Carbon Technology Roadmap 2050 developed by CSI-WBCSD.

**Clean Development Mechanism (CDM):**

Blended Cement Project: Realized 72714 CERS in 2013. Also submitted verification reports to UNFCCC recommending for issuance of 846313 carbon credits

9 MW Wind project in Tamil Nadu: Realized 21745 CERS in 2013.

### **Kiln Stack Emissions & Fugitive Emissions:**

ACC has implemented various initiatives/measures for improving the environmental performance of the plants. Our specific kiln dust emissions per tonne of cement has been decreased by ~18% when compared with last year. This reduction has been achieved through various measures like conversion of ESP's to Baghouse, changing the maintenance practices, by installing PTFE membrane glass fibre filter bags in place of ordinary filter bags etc. Across ACC, many initiatives have been undertaken to minimize fugitive as well as stack emissions. ACC is having one of the best stack emission performance in the country.

### **Water Intensity & Metering System:**

A lot of initiatives have been undertaken in water management like installation of water meters, minimizing the leakages, modification of the process etc which has resulted in saving of freshwater consumption. Huge amount of rainwater has also been harvested in & around plant premises.

During the year 2013, ACC's specific water consumption / T of Cement is reduced by 2% in Cement manufacturing. ACC is implementing many initiatives to achieve the country's best specific water consumption of 80 ltrs/cement.

**Water Positivity:** We are implementing all possible measures like water harvesting in mines, colony, plant, implementing water metering system and water conservation measures to become water neutral at first and then aiming to become water positive.

**Discharge of Effluents:** We adhere to Zero discharge of our process waste water.

A Green belt has been developed in & around the plant premises. During the year 2013, we have planted about one lakh trees under our afforestation programme.

During the year 2013, we have installed Continuous Ambient Air Quality Monitoring Stations at 3 plants and started uploading the ambient air quality data of 3 plants on CPCB website continuously.

**Sustainability Roadmap:** The existing road map is for the period 2009-2013 and we are in the process of consolidating the inputs for roadmap for the period 2014-2017.

During 2013, the following awards have been received by ACC as a Corporate, towards its sustainability performance:

1. CII - ITC Sustainability Prize
2. "Eco - Corporate" Yes Bank - Saevus Natural Capital Award
3. Parivartan Sustainability Disclosure Leadership Award

Individual plants have been recognised by various environmental awards in various categories.

**Form A**  
**Power and Fuel Consumption – Cement**

	Current Year			Previous Year		
	Lakh Units (Kwh)	Total Cost (₹ Lakhs)	₹ per Unit	Lakh units (Kwh)	Total Cost (₹ Lakhs)	₹ per Unit
Electricity (Gross)						
a) Purchased :	5407	31,678	5.86	6152	32,949	5.36
b) Own Generation :						
i) Through Diesel Generator	6	224	36.49	43	570	13.28
ii) Through Steam Turbine / Generator	17639	77,555	4.40	17876	76,829	4.30 **

	Quantity (Lakh Tonnes)	Total Cost (₹ Lakhs)	Average Rate (₹/Tonne)	Quantity (Lakh Tonnes)	Total Cost (₹ Lakhs)	Average Rate (₹/Tonne)
Coal (for kiln)*	22.75	13,2465	5822	23.29	1,32,094	5672

\* Does not include other fuel / alternative fuels used in kiln.

\*\* Excluding impact due to change in Depreciation method.

Waste Heat Recovery System commissioned in Nov-2013 and under stabilisation.

**Consumption per unit of Production**

	@ Standard	Current Year	Previous Year
a) Electricity Kwh/T of Cement * Semi-dry / Dry Process	98-110	81	84
b) Coal for kiln K.cal/Kg of clinker Semi-dry / Dry Process	720-990	733	736

@ Source : Publication of Confederation of Indian Industries

\* Excludes non-process power consumption.

## **(B) TECHNOLOGY ABSORPTION**

### **Research & Development**

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

- a) Improving quality of blended cement through innovative processing utilizing industrial by-products for improved quality performance of ACC Plants
- b) Conservation of resources through maximization of use of low-grade limestone for cement manufacture
- c) Development of application oriented Cements with decreased CO<sub>2</sub> emissions
- d) Development of new products or discovering new methods of analysis
- e) Productivity research for increased efficiency in use of resources
- f) Recycling of wastes and research for efficient use of scarce materials
- g) Characterization of Industrial wastes and looking into possibilities environmentally friendly of co-processing wastes in cement manufacture leading to thermal substitution and conservation of natural resources

- h) Development and use of Cement Grinding aid and accelerators for PPC & PSC for improved performance in Concrete and reduced clinker factor in Blended Cements
- i) Evolving optimum fuel Mix and Maximization of ashless fuels like Petcoke.
- j) Development of Cements tailored for specific market clusters and application segments
- k) Development of one of its kind cement in India for reducing water seepage
- l) Development of cement based niche products
- m) Quality benchmarking exercise for different market clusters of ACC products

**2. Benefits derived as a result of above R & D:**

- a) Effective use of marginal quality raw materials and fuels with improved clinker quality
- b) Increased absorption of blending materials like flyash and slag in blended cements
- c) Effective replacement of the costlier natural gypsum by a cheaper by-product phospho-gypsum without affecting the quality of cement
- d) Maintain a lead position in all the market clusters of the country
- e) Launch of special high performance premium brands like F2R, Concrete Plus, Coastal Plus ACC Plus+, ACC Gold for specific Market segments / Market climatic conditions for improved Performance and Durability of Resultant Concrete
- f) Reduction in Sp. Power consumption for grinding
- g) Effective use of statistical Quality Control & Quality tools at each stage of Cement Manufacture for Process improvements leading to improvements in consistency of Operations and consistency in Quality of the Product
- h) Fuel efficiency

**3. Future plan of action:**

- a) Exploratory research works on the above specific areas
- b) Focus on development of products aimed at enhancing use of cement in various applications and development of application oriented Cement based cementitious material
- c) Use of waste / byproducts in cement manufacture as alternative materials
- d) Improve product quality particularly with respect to long term durability and reduction in cost of manufacture

**4. Expenditure on R & D:**

	2013 ₹ Lakhs	2012 ₹ Lakhs
a. Capital	106	172
b. Recurring (Gross)	743	652
c. Total	849	824
d. Total R&D expenditure as percentage of total turnover (%)	0.07	0.07

**5. Foreign Exchange Earnings & Outgo:**

	2013 ₹ Lakhs	2012 ₹ Lakhs
Foreign exchange earned	78	-
Foreign exchange used	18,803	7,830