

BIRLA CORPORATION LTD.(Cement Division)
BIRLA VIKAS CEMENT
Satna (M.P)

COMPANY PROFILE :

After establishing itself as a major Cement producer the then Birla Jute & Industries Ltd., commissioned its second unit at Satna (M.P.) in 1982 under the name BIRLA VIKAS CEMENT (BVC). In keeping with the technological innovation at that time. The plant was setup with a dry process Kiln with a 2- string Preheater and a separate line Precalciner. This was the first plant supplied by M/S F.L.Smith in India , based on coal fired precalciner technology. With a rated capacity of 0.80 Million Tons ,BVC has always been operating at a higher capacity. **The BVC unit also has been conferred with ISO-9001 and ISO-14001 certification** in recognition of its performance in quality management and environmental management systems. Besides the conventional general purpose Cement OPC 33G, 43G and 53G, Birla Vikas Cement manufactures PPC utilizing Flyash. We produced 9.90 lac tons Clinker and 8.93 lac tons Cement in the year 07-08. Annual sales turnover for Birla Vikas Cement Plant, in the year 07-08 was Rs.34868 lacs ".



An Overview of "Birla Vikas Cement" Plant

ENERGY CONSUMPTION:

The company has always accorded top priority for minimization of energy consumption by putting consistent efforts towards optimization of operating/process parameters, efforts have been made for reducing energy consumption, wherever possible, by adopting appropriate technology and suitably modifying the process stream with installation of necessary equipment /machinery etc. Following data of last three years shows continual reduction in energy consumption and depicts our sustained efforts to conserve energy.

| Year | Total Energy consumption | | Total cost of The energy used for the production | Energy consumption in terms of % of manufacturing cost |
|------------------|---------------------------------|------------------------------------|---|---|
| | Electricity Lakhs / year | Thermal Million Kcal / year | Rs. Lakhs / year | |
| 2005-2006 | 994.97 | 78.61×10^4 | 6879 | 26.50 % |
| 2006-2007 | 979.24 | 76.17×10^4 | 5964 | 28.29 % |
| 2007-2008 | 1058.90 | 84.02×10^4 | 6691 | 31.94 % |

ENERGY CONSERVATION COMMITMENT, POLICY AND SET UP :

With a view to sustaining energy conservation efforts, an "Energy Conservation Cell" has been instituted headed by President himself and comprising engineers from Production, Mechanical and Electrical departments. The cell has been entrusted with the responsibility of monitoring both Electrical & Thermal energy consumption on a continuous basis, advising concerned departments for taking corrective actions, wherever necessary and implementing energy saving schemes.

Our energy management policy is as follows:

Energy management Policy

We, at Birla Corporation Limited are committed to continuously improve the energy performance in all our activities and services to maximize reduction in energy consumption and to conserve energy resources for future generations without impairing productivity. To accomplish this, we will

- Set targets and continuously monitor the energy consumption pattern and take corrective actions.
- Upgrade the process, technology and equipment to reduce the cost of energy and increase the profitability of the organization.
- Make energy conservation a mass movement by creating awareness and encouraging the employees participation at all levels.
- Enhance the use of non-conventional and renewable forms of energy wherever possible.
- Explore the possibility of waste heat recovery in the plant
- Ensure energy efficient Captive generation.

B.R. Nahar
Managing Director

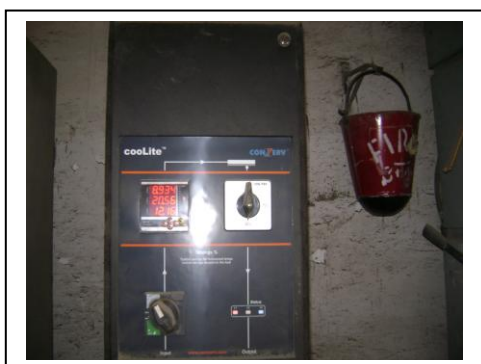
ENERGY CONSERVATION ACHIEVEMENTS

During the period between 2005-2008 Birla Vikas Cement has implemented many proposals received by workmen's suggestions, In house energy audits by EC etc. This resulted in to **saving of Rs.88.51 Lakhs**. This has resulted in a **reduction of 1.94%** in specific electrical energy consumption in Cement.

| YEAR | PRODUCT | KWH/TONNE | % REDUCTION OVER 2005-06 | KCAL/TONNE | % REDUCTION OVER 2005-06 |
|---------|---------|-----------|--------------------------|------------|--------------------------|
| 2005-06 | Cement | 91.29 | | 847 | |
| 2006-07 | Cement | 86.44 | 5.32 | 852 | |
| 2007-08 | Cement | 84.76 | 1.94 | 848 | 0.47 |

Energy Conservation measures taken in year 2007-2008 :

a) Installation of lighting energy saver for Pre-heater and Raw Mill Section



Lighting energy saver has been installed to reduced input voltages to the luminaries and hence save the energy. This also enhances life of luminaries.

Energy saved per annum : 0.46 lacs units
: 1.06 lacs

Investment : 1.50 lacs

b) Installation of compressed air energy saver for main plant compressors



Compressed air energy saver stabilizes out put pressure. Out put pressure is set to reduce pressure as per site requirement and hence energy is saved

Energy saved per annum : 4.08 lacs units
: 9.47 lacs

Investment : 3.00 lacs

c) Replacement of old & inefficient lamps

Old and inefficient sodium vapor lamps have been replaced with Metal Halide lamps.

Energy saved per annum : 0.16 lacs units
: 0.37 lacs

Investment : 0.50 lacs

d) Installation of Expert software for automatic control of Cement Mill's Operation and innovative modifications in Cement Mill no.1



Expert software has been installed for automatic operation of Cement Mill's. Innovative modification has been done in Cement Mill No.1 section and 35 KW root blower, 11 KW BDC Fan, 0.75 KW Ral & 1.1 KW Air slide blower have been stopped

Energy saved per annum : 21.24 lacs units
: 49.29 lacs

Investment : NIL

e) One no. 55KW blower stopped by optimizing air consumption in Lean Phase Ash conveying system in 27 MW TPP



Optimization of air has been done in Lean Phase ash Conveying system in 27 MW TPP

Energy saved per annum : 3.37 lacs units
: 7.82 lacs

Investment : NIL

f) Replacement of CI Impeller of cooling water pumps by SS Impeller in 27 MW TPP



There was problem of fast erosion of CI Impellers of water pumps in 27 MW TPP. These Impellers have been replaced by SS Impellers. Life of Impellers have been improved and also load has been reduced.

Energy saved per annum : 1.01 lacs units
: 2.34 lacs

Investment : 2.00 lacs

ENERGY CONSERVATION PLANS AND TARGETS:

The plant management and staff are committed to improving their energy efficiency further by setting still lower energy consumption targets; and this an on-going journey towards achieving excellence in energy consumption. Our plans for Energy Conservation is as follows:

| Energy Conservation plans | Anticipated saving | | | Approx. Investment (Rs. lakhs) | Project completion Year |
|--|--------------------|---------|-----------|--------------------------------|-------------------------|
| | Energy Value | | | | |
| | KWh/ Tonne | Kcal/Kg | Rs. Lakhs | | |
| Capacity enhancement from 2900 to 5100 TPD clinker | 10.40 | 50 | 921.50 | 7041 | Year 08-09 |
| Installation of Waste Heat Recovery System. | 393 lac units | | 1305 | | Year 08-09 |

ENVIRONMENT AND SAFETY:

Besides the energy conservation measures, the company has also given due attention towards environmental control in mines as well as plant site. As mentioned earlier, BCL - Satna has been awarded with an International recognition "ISO-14001" certification for implementing Environmental Management System. 4 nos. ESP's, 29 nos. Bag dust collectors and 27 nos. Cassette filters have been installed inside the plant to control dust emission. 4.6 lacs trees have been planted till March 2008. We are strictly meeting standard 100 mg/ Nm³ laid by MPPCB. Environment policy is enclosed as annexure-IV.

ZERO DESCHARGE OF WATER - Waste water of the plant and colony is collected in a oxidation pond. This water is retreated and reused.

Safety is on top priority. Various safety committees have been formed to discuss and implement safety plans. There was no accident (Fatal & total permanent disability) reported in the year 07-08. Safety policy is enclosed as annexure-V.

Following awards have been recently received –

- 1) "Safety Excellence Award -2007" given by National Safety Council
- 2) "Greentech Environment Excellence award - 2007" given by Greentech Foundation, New Delhi
- 3) "Greentech Environment Excellence award - 2008" given by Greentech Foundation, New Delhi

RURAL DEVELOPMENT ACTIVITIES:

Following activities have been taken up for the development of rural areas :

- 1) Improvement of water supply management – Cleaning of ponds and construction of water tanks
- 2) Contribution for spiritual and morale development – Contribution for making temples and dharmashala.
- 3) Educational aids – Construction of school building, rooms in schools, providing desks, stationary and sports material.
- 4) Medical aids – provision of X-Ray machine, ECG machine and Diathermy machine along with other accessories for the benefit of villagers in Civil Hospital-Satna. Organizing medical camps.
