

## **Birla Corporation Ltd. (Cement Division) Satna Cement Works, Satna (M.P)**

### **COMPANY PROFILE:**

Commissioned in 1959, Satna Cement Works (SCW) has the distinction of being the first Cement plant in Birla Group manufacturing Cement with the then prevailing "Wet process" technology. In keeping with technological developments, the plant was upgraded and switched over to "Dry process" of Cement manufacturing in 1989. The plant has been conferred with ISO-9002 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, Satna Cement manufactures PPC utilizing Flyash received from NTPC Thermal Power Plant at Unchahar(U.P) and also special purpose Cements viz. Sulphate Resistant Portland Cement, Low Alkali Cement and 1RS.-T-40 grade Cement for Railway sleepers. This plant has the distinction of being the only plant in INDIA with an Alkali bypass system installed. In consonance with its commitment to quality, necessary instrumentation facilities including X-Ray analyzer and X-Ray diffractometer are provided for monitoring and controlling quality of Raw materials and Clinker/Cement. While domestic market requirements the met with our products under the brand name "BIRLA CEMENT KHAJURAHO" and "BIRLA SAMRAT", our Cement is being regularly exported to Nepal and Bangladesh under the brand name "CAMEL" & "ROYAL TIGER". An split location Cement Grinding unit was commissioned in Dec.1998 for Flyash base PPC grinding capacity of 30000 TPM, Clinker is being sent from Satna and Flyash is collected from NTPC Thermal Power house at Unchahar (U.P).



### **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..

The electrical energy consumption for the year 2004-2005 is 812.23 lakh Kwh. This includes 463.44 Lakhs Kwh of purchased electricity from grid and 348.79 Lakh Kwh (net) from electricity generated from its own captive Thermal plant & Diesel generating sets.

The Specific energy consumption is 87.45 Kwh/tonne of Cement in year 2004-05. The specific thermal energy consumption of the plant during the year 2004-2005 was evaluated at 762 Kcal/kg of Clinker (NCV basis).

### **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.

The above group of ECC prepares reports on energy performance of the plant on daily and monthly as well as yearly basis. The reports thus prepared are reviewed at different levels of management as given below:

- Daily review in production meeting where weak areas are identified and attended with a view to improving energy performance and implementing remedial measures quickly.
- Monthly review by President at plant apex level meeting.
- Yearly review for setting up energy targets for next consecutive year.

Based on the recommendation made by Energy Conservation Cell and review by various level committees the decisions are taken for implementation of energy conservation programmes in short, medium and long term basis. Modifications and retrofitting of energy efficiency equipment in different areas are implemented by respective heads of departments with advise of top executives.

### **ENERGY CONSERVATION ACHIEVEMENTS:**

As discussed above Satna Cement Works has accorded top priority on energy conservation programmes. This has resulted in a steady declining of specific electrical energy consumption for the last three years as shown below in the table.

Year	Specific Energy Consumption	
	Electrical Energy (Kwh/tonne cement)	Thermal Energy (Kcal/kg Clinker)(On NCV Basis)
2002-2003	90.11	789
2003-2004	87.54	776
2004-2005	87.45	762

The various factors attributed to the above energy savings are installation of energy efficient equipment/system, optimization of process operating parameters, plugging of leakages and regular in-plant energy monitoring etc.

Above efforts have paid rich dividends in the form of Energy Award (mentioned below) earned by Satna Cement Works:

- Fuller Energy Conservation Award (under category A) from M.P. Chamber of Cement Manufactures for the years 1999-2000.
- Fuller Energy Conservation Award – First prize in state level Awards in category-I for maximum percentage reduction in electrical energy (Kwh) consumption per M.T. of clinker produced over the year 2001-2002.

### **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.

Few of the major energy saving equipment/modification planned for the year 2004-2005 are as listed below:

- Retrofitting of conventional Link Chain Elevators at CM-1 with new generation Bucket Elevator.
- Retrofitting of conventional Link Chain Elevators at Packing Plant with new generation Bucket Elevator.
- Modification in Pyro-process for clinker production capacity enhancement from 3400 TPD to 4200 TPD
- Retrofitting of CM-1 ESP with installation of Bag filter