

# **HAIDERGARH CHINI MILLS**

(Unit of Balrampur Chini Mills Ltd)

## **UNIT PROFILE**

Balrampur Chini Mills Ltd (BCML) was incorporated in 1975 under the companies act as a wholly-owned subsidiary company of Balrampur Sugar Company Ltd. BCML is one of the largest integrated sugar manufacturing companies in India. Its allied business consists of manufacturing and marketing of ethyl alcohol and ethanol, generation & selling of power and manufacturing & marketing of organic manure. Company has ten sugar mills located in eastern UP with aggregate crushing capacity of 71000 tons per day.

During the period of 2003-04, BCML set up a world class integrated sugar complex at Haidergarh consisting of a sugar plant of 4000 TCD and a bagasse based cogeneration power plant of 20.25 MW.

By taking energy conservation measures and slight modification/addition, the capacity of the plant has been increased to 5000 TCD and 23.25 MW without adding Boiler. We plan to expand the plant to 6000 TCD with the same available steam of 90 Ton/Hr. by adopting other steam saving measures.

Following are the technologies adopted at HCM regarding energy conservation:

1. 23.25 MW Cogeneration through 87 ata pressure Boiler of 120 TPH capacity (steam available for process section – 90 TPH)
2. High volt (690 Volts) D.C. Drives of Mills
3. Regeneration type DC Motors at Batch C/F Machine
4. H.T. A.C. Drives (11 KV) for bigger sizes of motors of Shredder – 600 KW x 2 Nos.
5. Variable Frequency Drives – 90 Nos.
6. Planetary Drives for Crystallizers, Pugmills, Magma mixers etc. - 20 Nos,
7. Helical gears for all kind of Carriers, Magma Masecuite and Molasses Pumps, Sugar Melter, Milk of lime handling equipments, Molasses Conditioners and other material handling equipments.  
(One KW motor is installed on MOL tank drive against 10 KW Conventional Drive)
8. Effective utilization of flash vapour
9. Efficient Injection System (2600 M3/hr. water consumption at 5200 TPD).
10. Bigger and wider size of Mills and Carriers 40”x80” Mills and 2300 mm wide Carrier. Wider carriers & Mills consume less power.

11. Use of energy efficient lighting and motors.
12. 100% standby set of Evaporation Station (DEVC + Quintuple)
13. Continuous Pan on B Masecuite. Now, we are planning to put continuous pans on A & C duty also in the year 2008-09.
14. Syphon for condensate discharge (no pump, no power required).
15. Antifriction Bearings in Mill Gearing, Carriers, Crystallizers, Pugmills & Magma Mixers, masecuite, magma and Molasses Pumps etc.
16. Automation through DCS and VFD

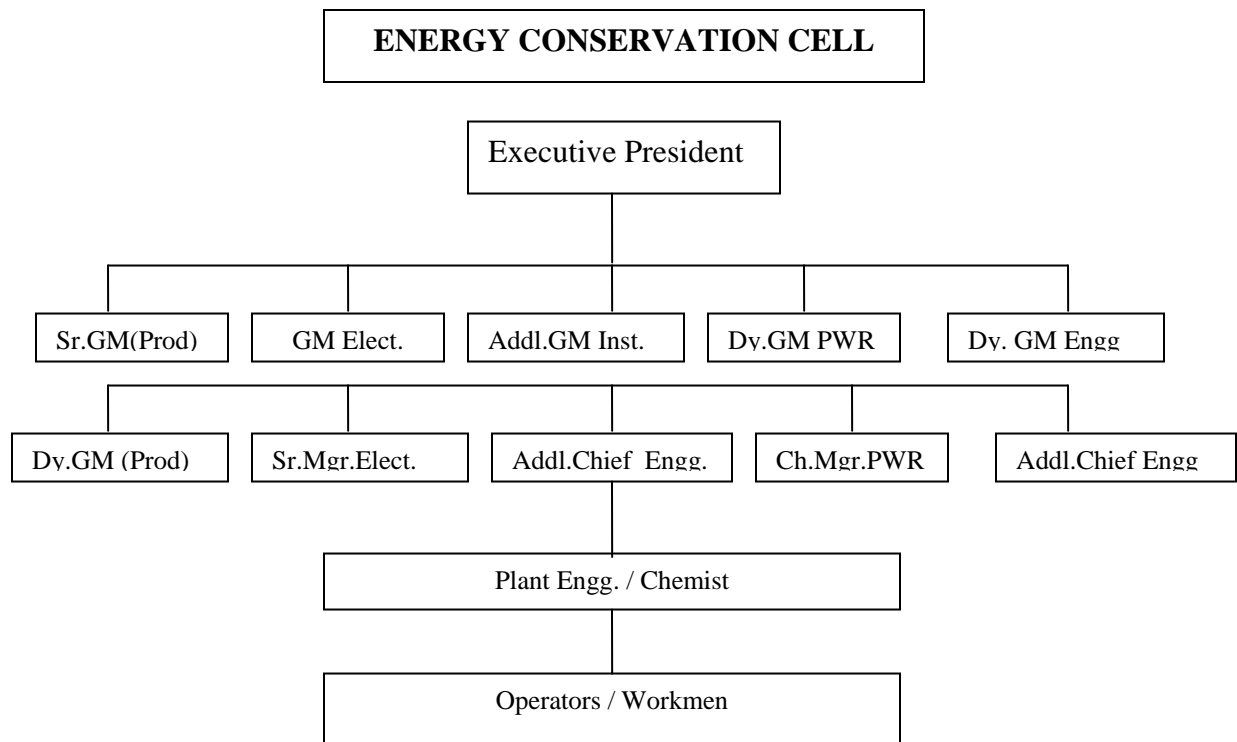
### **ENERGY MANAGEMENT POLICY**

Our Energy Management policy strives for

- Improving the energy efficiency.
- Optimizing power consumption in the Unit.
- Operation of the Plant with reduced atmospheric pollution.
- Reducing steam consumption by adopting best technologies.
- Comply with the Energy Legislation & other regulations.
- Make an effort to reduce the cost continuously by adopting effective Management system.
- Training of the plant personnel to achieve the above.

### **FUNCTION OF ENERGY CONSERVATION CELL**

- Implementation of activities to reduce power consumption & increase energy efficiency.
- Physical measuring and analysing of energy consumption on day to day basis.
- Planning of usage of waste heat.
- Plans to increase saving of all types of energy.



**Major Energy Conservation Project Implemented during the year 2006 - 2007**

Last year, we have installed a condensate heat recovery system ( Condensate Cigar with Plate type Heat Exchanger) through which we are able to recover the waste heat going with the excess condensate by using flash vapours. Further, the excess heat recovered from exhaust condensate has also eliminated the use of 9 ata steam for superheated wash water at centrifugal machines.

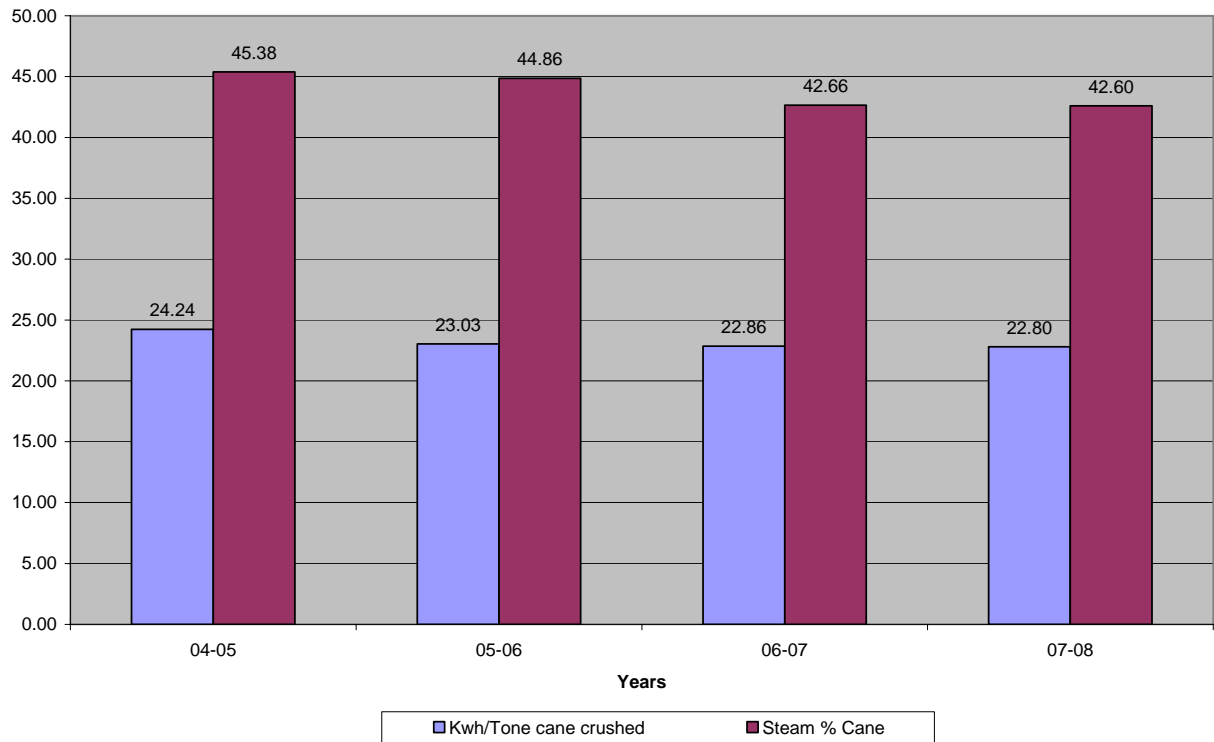
Further details have been mentioned in Annexure - B

**Energy Consumption**

The energy consumption for last three years is as under. This is also illustrated through Bar Chart.

Year	Sp. Energy Consumption	
	*kWh/ tonne of cane crushed	Steam % Cane
2004 - 2005	24.24	45.38%
2005 - 2006	23.03	44.86%
2006 - 2007	22.86	42.66%
Projected Consumption 2007-2008	22.80	42.60%

### Energy Consumption



In future (2008-09), we have planned to install Continuous Pans on A & C Massecuite to reduce the steam consumption by 5%, with an investment of Rs.800 Lacs.

The unit is committed to preserve its environment and safety of its employees. The cogeneration plant complies with all parameters of Kyoto protocol and is accordingly eligible to receive carbon emission benefits. Haidergarh Chini Mills is the first Indian sugar mill certified for ISO 9001:2000 (Quality Management System), ISO 14001: 2004 (Environment Management System), ISO 22000: 2005 (Food Safety Management System) and OHSAS 18001: 1999 (Occupational Health and Safety Management System) all together.

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