

Ballarpur Industries Limited Unit : Kamalapuram

BILT, Unit -Kamalapuram



ABOUT US

- ◆ **Our Unit is one of the best in South East-Asia for manufacturing dissolving Grade pulp with capacity of 95000 TPA, supplying to textile industries.**
- ◆ **Unit is located in Kamalapuram of Warangal Dist & is away by 120 km from Warangal in Andhra Pradesh..**
- ◆ **We have latest state of the art of equipment, and entire plant is controlled through DCS (Distributed Control System)**
- ◆ **Our major customers are Grasim – Nagda, NRC and BRC who manufactures Viscose Staple and Viscose Filament yarns.**

Awards & Rewards

- ◆ Our unit was awarded “ Three Green Leaves” by Center for Science & Environment- New Delhi for Green rating project in 2003.
- ◆ Our unit was awarded with CII- National Award for Excellence in Energy Management 2007

Ballarpur Industries Limited Unit : Kamalapuram

Energy Consumption

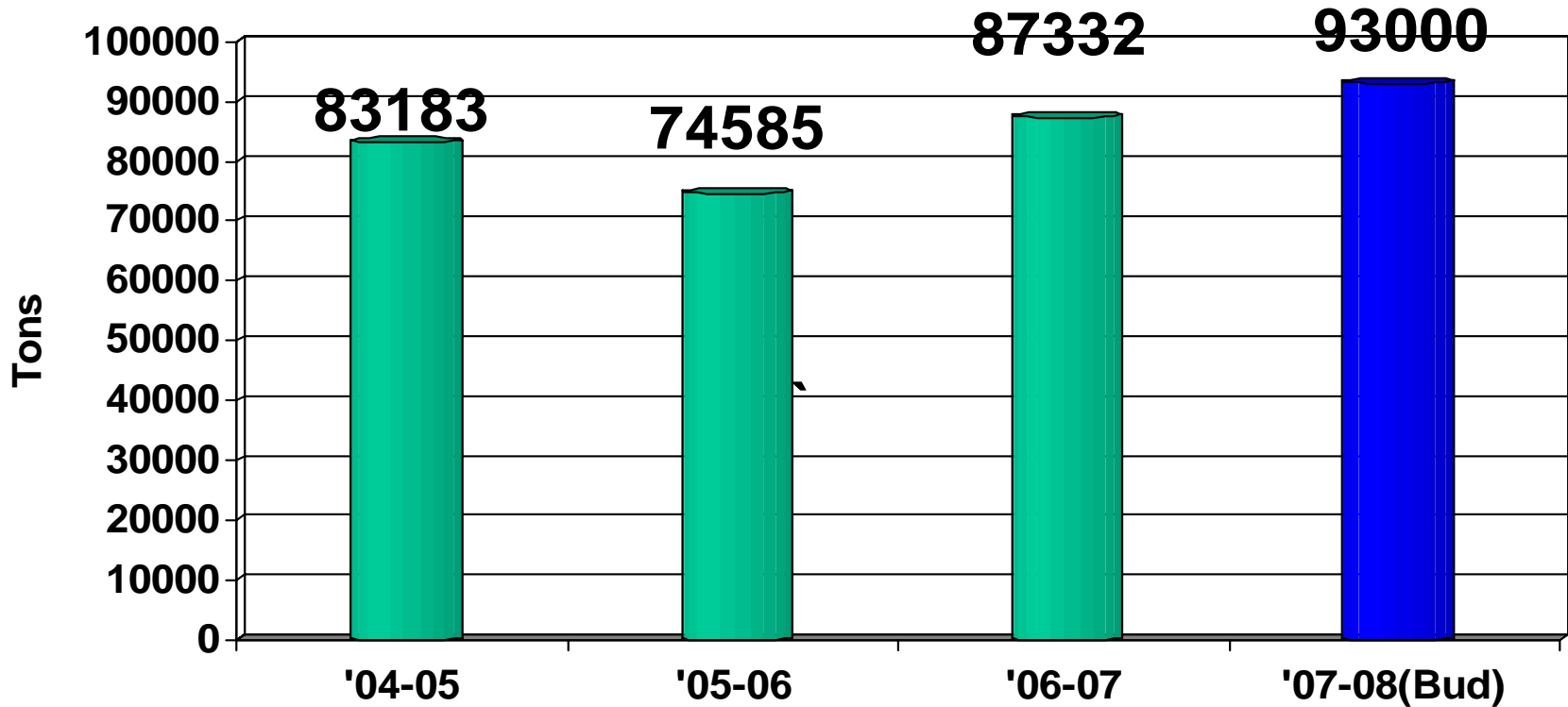
With the continual implementation of various energy conservation measures and system modifications using tool (- ANNAR road map ,TQM methodology) , achieved reduction in sp. Power consumption and improvements

Last three years specific energy consumption figures as shown below

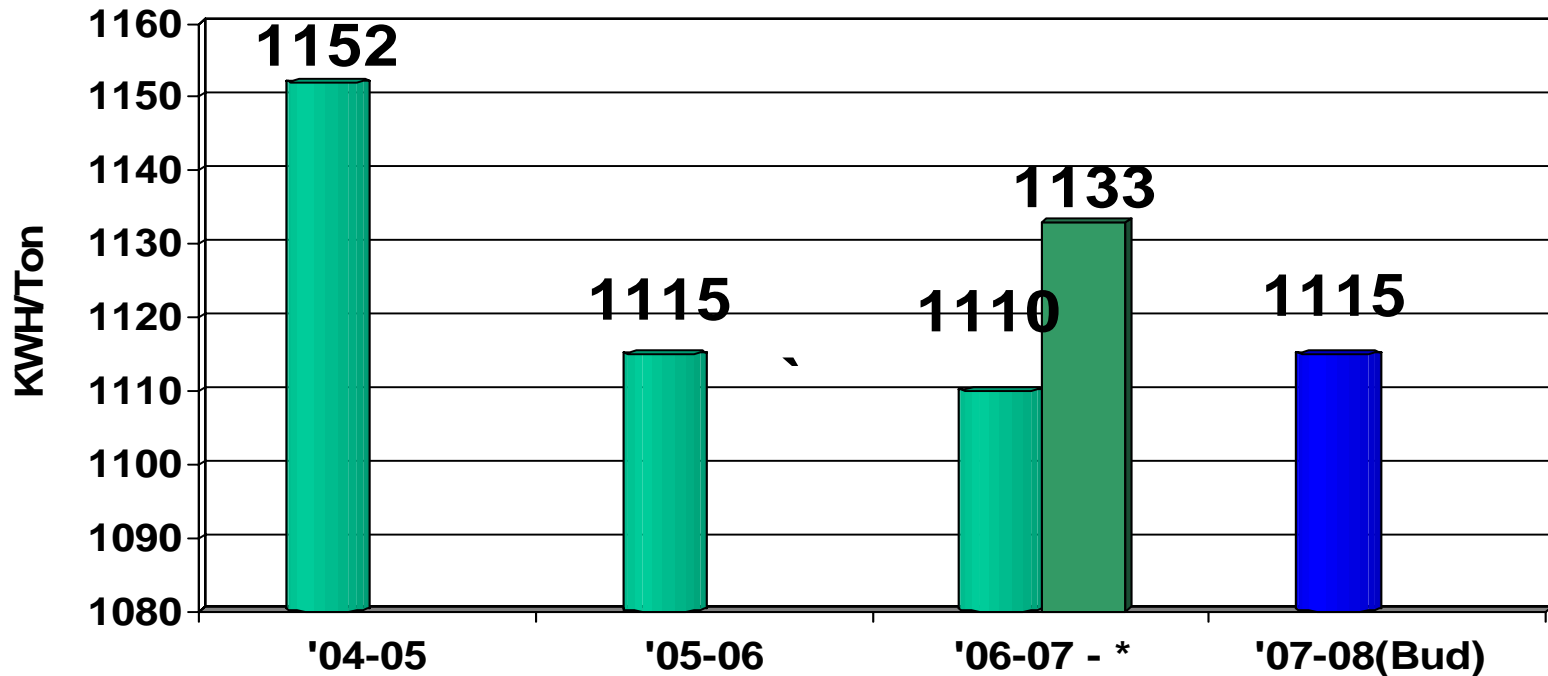
Description	UNIT	2004-2005	2005-2006	2006-2007
Annual Production of pulp	Tons	83183	74585	87332
Sp Electrical Energy consumption	KWh / Ton	1152	1115	1133*
Sp.Thermal Energy	M Kcal/ Ton	3.72	3.63	4.07 *
Total manufacturing cost	Rs.Lacs	15337	14409	18183
Total energy bill	Rs lacs	3461	3199	4002
Energy as a % of total manufacturing cost	%	22.6	22.2	22.0

* Increase in trend of sp energy is due to the new installations for environment improvement , water conservation measures and system modification jobs to off set the affect of poor quality of raw material

Rayon Grade Pulp Production -MT

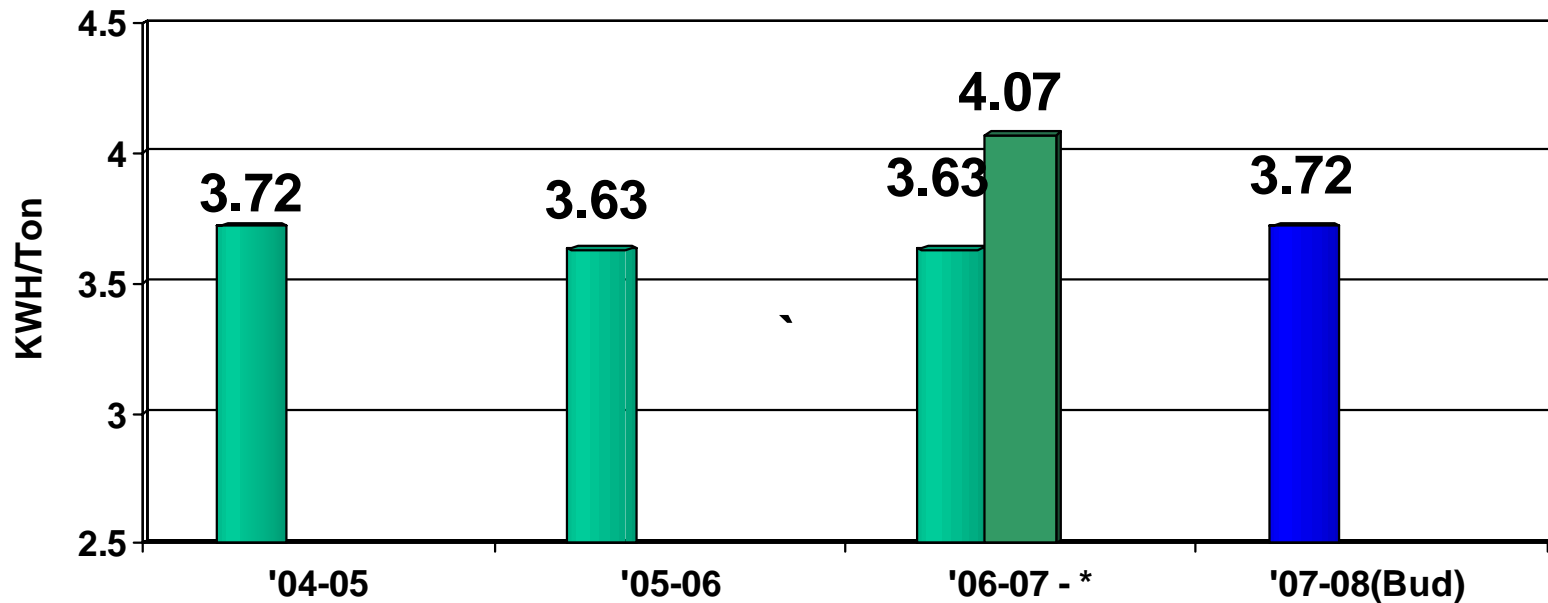


Sp. Power Cons- Kwh /Ton of Pulp



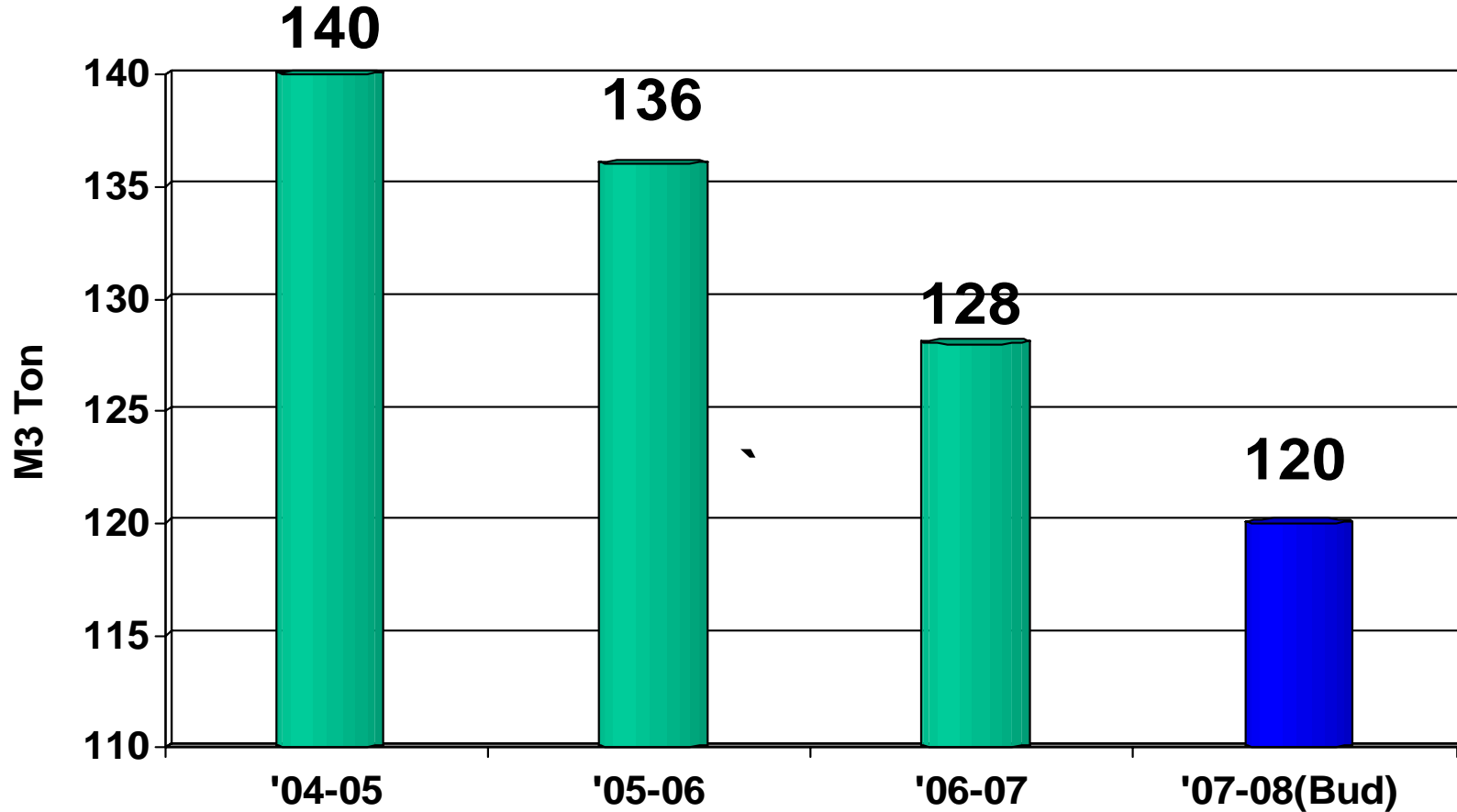
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Sp.Thermal - M.Kcal /Ton of Pulp

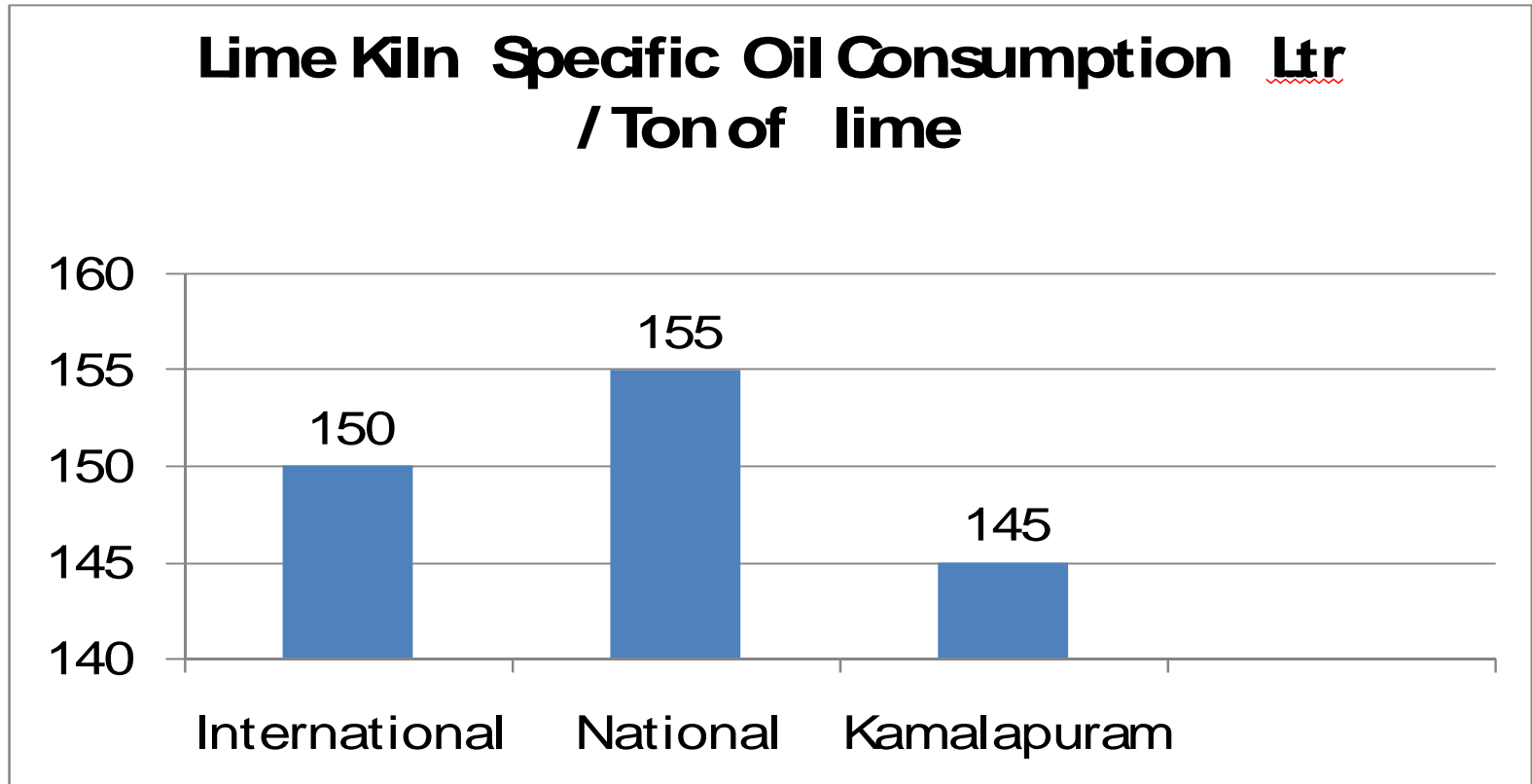


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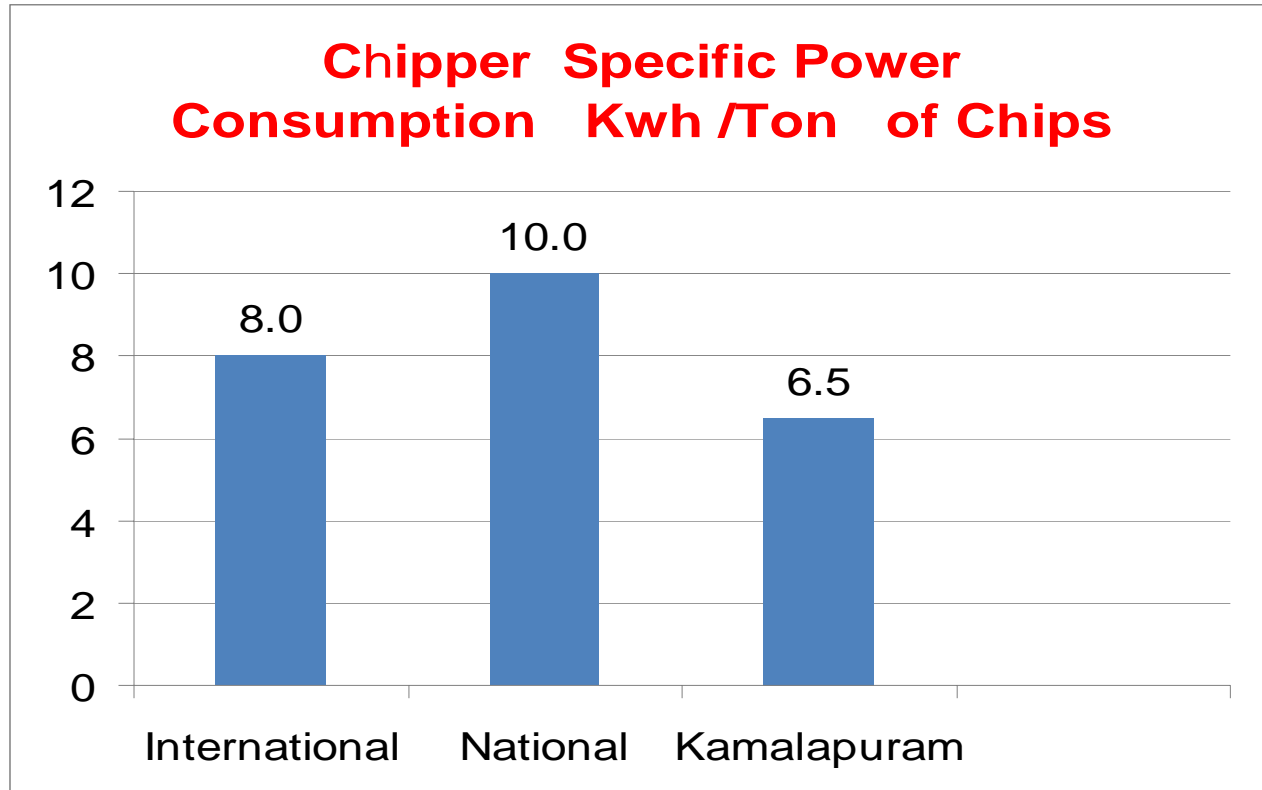
Water Consumption M3 /Ton of Pulp



Global Bench Marking

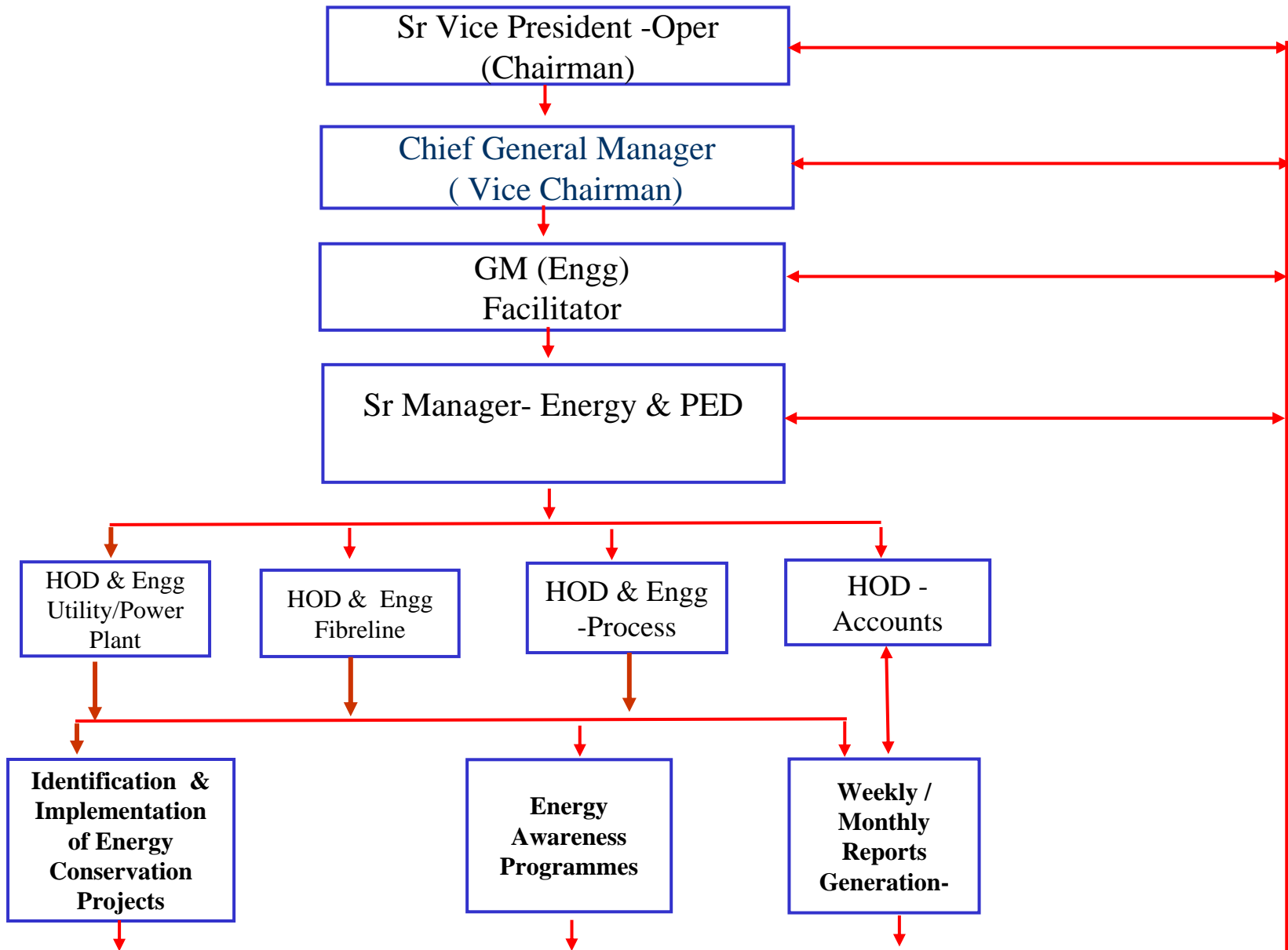


Global Bench Marking



Ballarpur Industries Limited Unit : Kamalapuram

Energy Management Cell



Ballarpur Industries Limited Unit : Kamalapuram

ENERGY MANAGEMENT POLICY

We, Ballarpur Industries Limited-Unit Kamalapuram Manufacturer of Dissolving grade pulp are committed to Provide:

Continual Improvement in our working to maximize efficiency and achieve resource Conservation like water, Power, Steam, Compressed Air, Oil and Coal.

Operate reliable processes and reduce the cost through efficient use of Energy Resources/Renewable Energy resources.

To Ensure that all statutory rules& regulations related to energy Management are followed.

To Minimize the waste generation & disposal in Environ friendly way.

Create a participative,motivating & challenging environments amongst our employees to strive for highest degree of energy conservation and achieve national / International bench marking

30th Jul-06

Neehar Aggarwal (Sr. VP- Oper.)

Ballarpur Industries Limited Unit : Kamalapuram

Energy consumption achievements

YEAR	PRODUCT	KWH / TON	% REDUCTION OVER 2004-05	MKCAL/ TONNE	% REDUCTION OVER 2003-04
2004-05	Rayon grade pulp	1153	----	3.72	----
2005-06	Rayon grade pulp	1115	3.3	3.63	2.4
2006-07	Rayon grade pulp	1133*	1.7	4.07*	- 9.4

* Increase in trend is due to

- 1)Environment: Installation of new additional equipment (belt filter press, aerators, etc)
- 2)Water conservation - Recycling water pump at WTP, higher cap. Pump (for treated effluent water) for gardening/floor cleaning , two stage boost water pump at bleaching
- 3)Additional vacuum pump 160KW installed at sheeting to improve dryness to meet the customer norms.
- 4)Poor quality raw material – scale formation on finishers causing lower efficiency of evaporators, resulting in Lower steam generation– **Additional evaporator body installed to overcome the problem**

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Steam savings



Installed wide gap free flow plate heat exchanger to optimize the heat recovery at Blow heat recovery.

Investment	:Rs 30 lacs
Annual savings	:Rs 117.98 lacs

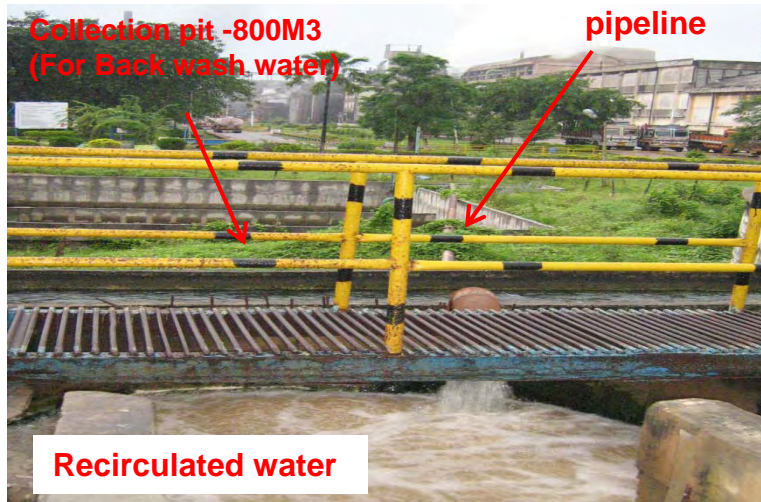
New heat exchanger & Self cleaning Filters



Usage of digester foul condensate in causticizing plant

Investment	:Rs 1.1 lacs
Annual savings	:Rs 6 lacs

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Water conservation measures

Recovering Back wash water by taking it into newly constructed pit at Clarifloculators in water treatment plant.

Investment : Rs 9.0 lacs
Annual saving : Rs.13.8 lacs



Using treated effluent water for hydrant, gardening , floor cleaning , sprinklers at coal yard & wood yard

Investment : Rs 2.6 lacs



Annual saving : Rs. 6.48 lacs

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Water conservation measures



Using machine back water in 2 top sprays of bleach decker

Investment : Rs 0.9 lacs
Annual saving : Rs.1.5 lacs



Cooling water of rectifier transformers diverted to cooling towers

Investment : Rs 0.48 lacs
Annual saving : Rs. 0.42 lacs

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Water conservation measures



Using hypo back water for EoP repulper dilution

Investment : Nil
Annual saving : Rs.1.5 lacs



Replaced fresh water with back water for CD foam showers

Investment : Nil
Annual saving : Rs.0.25 lacs

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Other Major initiatives taken for energy conservation

A) Saving of LP steam

S. No	Description	Annual savings -Ton	Annual savings Rs Lacs	Investment Rs Lacs
1	Reduced LP steam consumption by using CBD water of coal boiler in bleach plant	3996	6	1.5

B) Reduction of fresh water consumption

S. No	Description	Annual savings -M3	Annual savings Rs Lacs	Investment Rs Lacs
1	Cooling water of FBC ID fan and boiler feed water pumps diverted to cooling towers.	25550	0.46	0.45

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Energy Conservation Plans & Targets-2007-08

Sl. No	Description	Savings	Savings in Rs.Lakh	Investment (Rs. Lakhs)	Target date
1	<u>Steam</u> Installation of additional evaporator body to improve solids concentration to generate more steam from Recovery Boiler	25826 T /annum	100	293	Commissioned in Jul -2007
2	Up-gradation of blow heat recovery –LP steam reduction	31968 T / annum	50	170	Under study. Expected completion – Mar'08
3	<u>LSHS</u> Installation of producer gas plant for replacing 65% of LSHS in Lime kiln	4155 KL /annum	550	630	Under progress. Expected completion – Dec'07
			700	1093	

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To offset the impact due to poor quality of raw material



Installation of additional evaporator body to improve solids concentration to generate more steam from Recovery Boiler - Commissioned on 14 th July'07

Investment : Rs 293 lacs

Savings : Rs. 100 lacs per annum

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To reduce the energy cost by replacing 65 % of LSHS with producer Gas in lime kiln



Installation of Producer Gas plant for replacing 65 % of LSHS in lime kiln
– job is under progress and expected to be completed by Dec'07

Investment	: Rs 630 lacs
Expected annual saving	:Rs 550 lacs

Ballarpur Industries Limited Unit : Kamalapuram

Environmental and Safety : The unit is committed to preserve its environment and safety of its employees .Following initiatives implemented during last 3 yrs

Water pollution :

Reduction of load on ETP by using treated effluent water for log washing , ash quenching ,gardening , floor cleaning ,dust suppression.

Solid waste management :

50 % saw dust (of total generated at chipper house) being fired in boiler

Lime sludge generated being fired in lime kiln to produce lime

Proposal are being for 100 % saw dust and yard waste firing in boilers

ETP sludge being sold to card board industries

Supplying Fly ash at free of cost to manufacturer of bricks and the same being used for in-house constructions in mill and the colony.

Air Pollution :

FBC boiler , Recovery boiler and lime kiln are being operated with ESP to meet the PCB norms.

CFB boiler is being operated with bag filters.

Company is regularly monitoring all the stack emissions and ambient air quality

Gas scrubbing system installed at bleach plant

Safety & Health

- Maintains stringent safety standards and ensure that safety measures are being followed strictly.
- SHE (Safety Health Environment) committee – meets once in month to review /discuss the safety related issues.
- Safety Department organizes training programmes and various competitions on the occasion of 4th March national safety day for employee's awareness on safety
- Unit facilitates annual health check up to all employees
- APR has full pledged occupational health centre in the colony & provides medical aid to surrounding villages
- First aid center inside the mill premises operating round the clock
- An Ambulance is also readily available to shift the patients in case of emergency