



RAMA NEWSPRINT AND PAPERS LIMITED
VILLAGE: BARBODHAN, TAL: OLPAD, DIST: SURAT.
GUJARAT (INDIA)



UNIT PROFILE

RAMA NEWSPRINT AND PAPERS LTD. was established in 1996 and is one of the India's largest manufacturer of Newsprint and Writing & Printing paper qualities, having an installed capacity of 1, 32,000 Tones per annum based on Recycled Fiber. Plant is situated at Barbodhan (Village) and 25 km away from SURAT city. RNPL produces mainly News Print and about 20 to 30 % of Writing & Printing varieties. Company is having turn over of about Rs. 288 Crore (For the accounting year 2004-05).



ENERGY MANAGEMENT POLICY

We at RNPL are involved in production of high quality Newsprint and Writing and Printing paper using waste paper as raw material thereby conserving natural depleting resource.

We are committed to demonstrate excellence in energy management performance on a continual basis.

To achieve this, we are committed to;

1. Improved Capacity Utilization.
2. Up-gradation of process, instrumentation & utility/equipments for energy conservation.
3. Continuously review specific energy consumption norms and benchmark with the best in the industry.
4. Energy efficient power generation equipment for replacement of old ones and achieve 100% self power generation.
5. Optimize consumption of natural resources, in particular fuel, water, air & electricity and Wherever feasible, reduce, re-use and recycle.
6. Carry out Internal and External audits to identify areas of improvement.
7. To ensure that the new projects are energy efficient.
8. Create awareness among all employees for efficient use of energy resources.

ENERGY CONSUMPTION

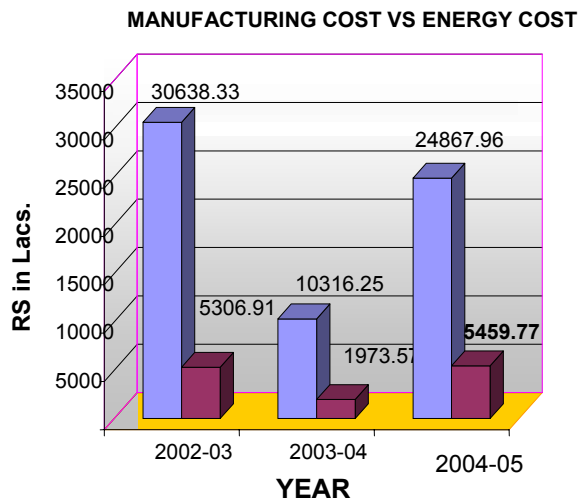
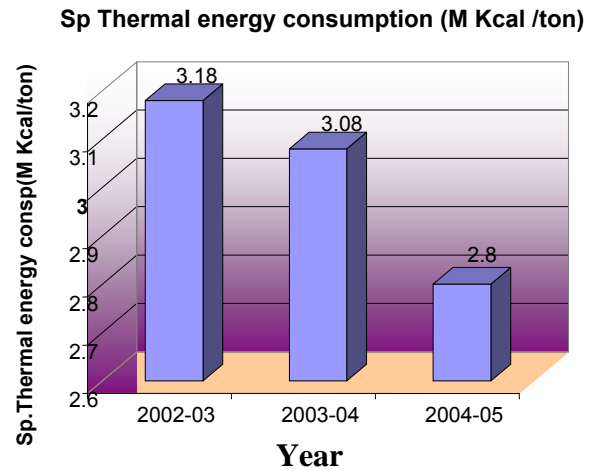
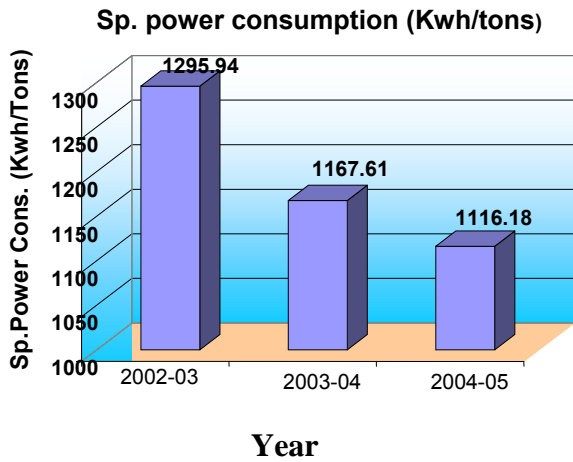
SPECIFIC POWER CONSUMPTION DETAILS	UNIT	2002-2003 * □	2003-2004 ** □	2004-2005 □
Annual Production	M Tons	136675	577156	118092
Total Energy consumption per annum	KWH (lakhs)	1771.23	667.36	1318.13
Total Thermal Energy Consumption	Million Kcal	434827.01	176286.62	331282.8
Total Manufacturing Cost	Rs. Lakhs	30638.33	10316.25	24867.96
Total Power & Fuel Cost	Rs. Lakhs	5306.91	1973.57	5459.77
Energy Cost as % of manufacturing cost	%	17.32 %	19.13 %	21.96 %
Sp Power Consumption	KWH/MT	1295.94	1167.61	1116.18
Sp Thermal energy Consumption	MKcal/MT	3.18	3.08	2.80

* AS PER BALANCE SHEET THIS IS THE FIGURE REPRESENTING 18 MONTHS PERIOD ENDING 30.9.03

** AS PER BALANCE SHEET THIS IS THE FIGURE REPRESENTING 6 MONTHS PERIOD ENDING 30.3.04

□ Represents Machine Production in Tons

GRAPHICAL REPRESENTATION OF SPECIFIC ENERGY CONSUMPTION



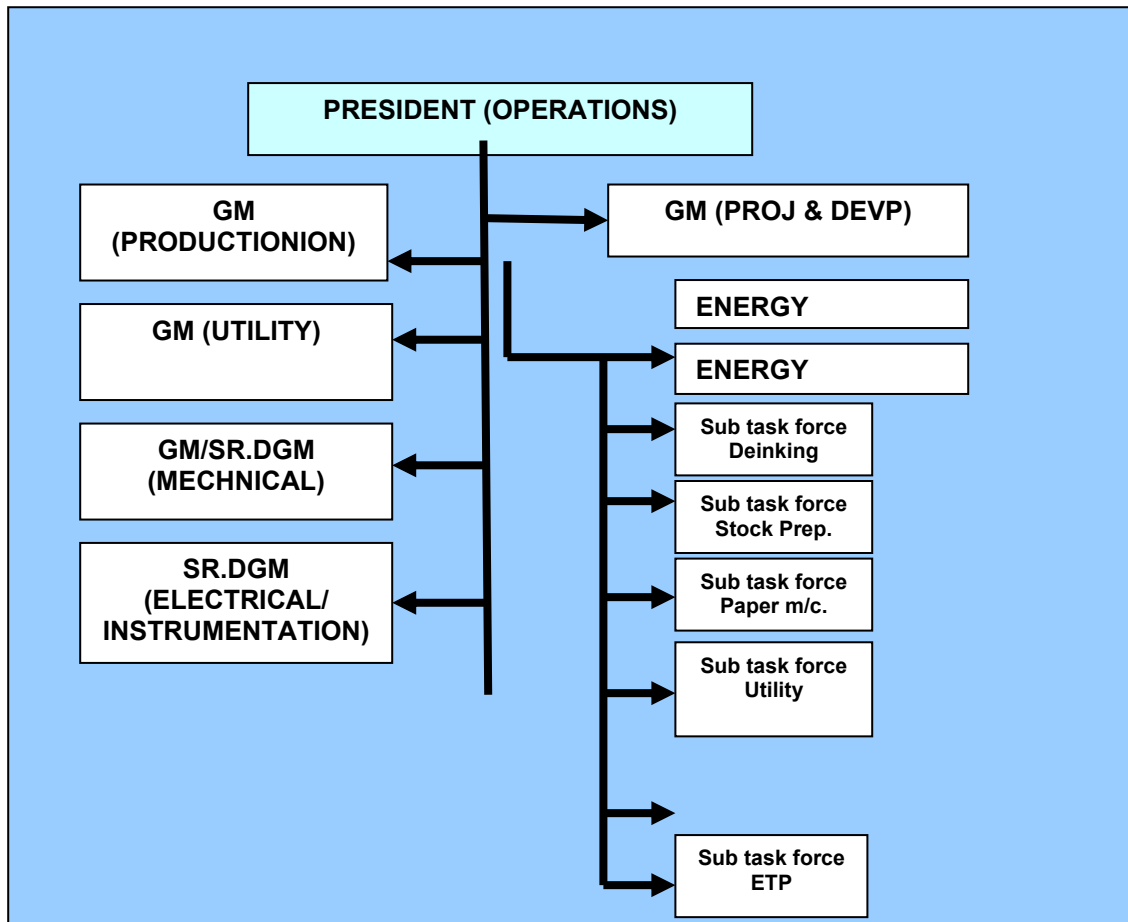
- Manufacturing cost
- Energy cost

SALIENT FEATURES OF ENERGY CONSERVATION CELL

The unit has Energy Conservation Cell, headed by General Manager (Project and development) assisted by Energy Manager /Engineer (Energy Conservation) and supported by HOD's of respective department and Energy conservation engineer and 6 (six) sub task forces. We have 6 (six) sub-task force (Energy Conservation) coordinated by the Energy Manager/ Engineer (Energy Conservation) under reporting to General Manager (Project and development). The sub task forces and Energy Manager meets every month for discussing such as all related energy conservation trends, status of on going energy saving jobs and as well as the new energy saving proposals of the members of the team/ concerned department. The energy conservation activities includes recording/reporting /analyzing and targeting electrical, thermal, air and water in the mill. This team finds various energy saving potential in their working areas, brings the proposal to Energy Cell for elaborate discussions and brain storming sessions for finalization and implementation.

For any clarifications and final decisions on critical issues regarding to energy saving jobs, matter will be discussed with Apex committee (with functional heads). Report of all the energy conservation activities will be reported to President on monthly basis. Energy cell is committed to fine tuning operations & maintenance continuously to achieve the goal, technology up gradation with energy efficient process and equipments. Also energy cell regularly conducts the program of Motivation, Training & encouraging employees to achieve a target of reducing specific energy consumption by minimizing every year.

ENERGY CONSERVATION CELL STRUCTURE



ENERGY CONSERVATION ACHIEVEMENTS

RNPL has implemented no of Energy saving schemes with nominal /low investment.



During the period 2004 – 2005, RNPL conserved 714392 Kwh equivalents to Rs 14.97 lacs per year.


Mainly energy conservation is achieved by



1. Process optimization
2. Improving the capacity utilization
3. Reducing the Paper machine down time.
4. Increase in the paper machine speed and hence the increase in productivity.


Major Energy Conservation Projects Implemented during the Year 2004-05


ACHIEVEMENTS OF ENERGY CONSERVATION PROJECTS.

Sr No	Job Description	Energy Saving		Photo
		KWH /Yr	Rs. (Lacs/Yr.)	
1	Replacement of under loaded motor of Primary Floatator 2 nd stage feed chest agitator (712-33-12) with 22 Kw motor in place of 37 Kw (running load of 37kw motor = 17.75 Kw 22 Kw motor = 14 Kw) [Photo no:1]	(17.75 -14) Kw x 24 hrs X 330 days / yr = 29700	0.62	 <p>Photo no:1</p>
2	Replacement of under loaded motor of Accept tower chest agitator (712-33-13) with 37Kw in place of 55 Kw motor (load of 55 Kw motor = 23 Kw 37 Kw motor = 21 Kw) [Photo no:2]	(23 -21) Kw x 24 hrs 330 days/yr = 15840	0.33	 <p>Photo no:2</p>

3	Bypassed Back water pump (712-31-10 of white water chest, 22 Kw supply water to transfer screw of peroxide tower and the same is being met by no 712-31-42 pump (load of 22 Kw motor = 13.2 Kw) [Photo no:3]	13.2 Kw x 24 hrs X 330 days/yr = 104544	2.19	 <p>Photo no:3</p>
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Sr No	Job Description	Energy Saving		Photo
		KWH /Yr	Rs. Lacs/Yr.)	
4	By passing of clarified water pump (712- 31-31) 45 Kw by taking clarified water to white water chest by gravity. (Running load = 27 Kw) [Photo no:4]	27 Kw x 24 hrs X330 days/yr = 213840	4.49	 <p>Photo no:4</p>
5	Replacement of under loaded motor of dump chest no. 1 agitator (711-33-01) with 18.5 Kw in place of 30 Kw motor. [Photo no:5]	(30-18.5) Kw x 0.24 x 24 hrs X 330 days/yr = 21788	0.45	 <p>Photo no:5</p>

6	By passing of hot water pump (11 Kw) and meeting the requirement from fresh water header. (Running load = 6.6 Kw) [Photo no:5]	6.6 Kw x 24 hrs X 330 days/yr = 51480	1.08	 Photo no:5
7	Installation of FRP fans in place of Aluminum fans of CT fans no(s) 1&4 (30Kw) in cooling towers. (Earlier load 26 Kw and after mod 17.5 Kw)(Since 23.07.05 new TG is in operation and this system was stopped.)	(26 - 17.5) KW x 2 nos x 24 hr X 330 days/yr = 134640	2.82	

Sr No	Job Description	Energy Saving		Photo
		KWH /Yr	Rs. (Lacs/Yr.)	
8	Installation of higher cap.(15 -11.5) Kw condensate transfer pump to optimize the utilization of steam ejector of Siemens TG & stopping of vacuum pump 30 Kw (running load of 30 Kw motor = 20 Kw 15 Kw motor = 11 Kw 11 Kw motor = 9 Kw)*Since 23.07.05 new TG is in operation and this system was stopped. [Photo no:6]	20 - (11-9) Kw x 24 hrs X 330 days/yr = 142560	2.99	 Photo no:6
9	TOTAL	714392	14.97	

OTHER PROJECTS implemented and under progress for the period 2004 - 05.

A) ENERGY CONSERVATION RELATED

1. Installation of New 23 MW TG for 100% captive power generation: Erection job almost completed as on 31.03.2005. (New TG has been commissioned successfully on 23 rd July'2005).



- Both the paper machine speed has increased as follows to optimize the production in progressive manner.

Sr. no.	Machine no	Date of changing the speed	Change in speed (MPM)	
			From	To
1	PM#1	Since November 2004	550	610
2	PM#2	Since November 2004	520	610

- Electronic chokes in place of conventional chokes.
- Thermal insulations provided wherever damaged.
- Switching off lights, fans, ACs, by individuals whenever offices are not occupied.

B) ENVIRONMENTAL PROTECTION RELATED

- Installed fine bar screen at FDP for plastic removal from drains and avoid going to Effluent treatment plant (there by reduce ETP load).



2. We have started the 5s' system and Kaizens system for good & clean environment and improvement.
3. Installation of reject handling screen **is under progress** at WDP to reduce the fiber loss and at the same time to reduce the influent load on ETP plant.



4. Installations of the Krofta to clarify the back water of paper machine no 1 **is under progress** so as to optimize the use of clarified water to reduce the fresh water consumption and as well as to reduce the influent load on ETP plant. **(job has been completed on 31-03-2005 and commissioned on 25-04-05)**



➤ **Energy Conservation Plans and Targets**

Targets:

- 1) Average Specific Energy Consumption to brought down to **1040** Kwh/ton of paper

Energy conservation plans

- 1) Reduction in the TG Power generation frequency from existing 49.8 to 49.6 Hz
- 2) Trimming of water supply pump impeller in Water Treatment plant
- 3) New TG 23 MW installation (which is already commissioned on 23.07.05)
- 4) Bifurcation of high pressure and low pressure compressed air system there by reducing the power consumption at generation source (compressor house)
- 5) Improvement of condensate recovery system

Manufacturing Process of M/s Rama News Print & Papers Limited

