

**Rama News Print & Papers Limited**  
**Barbodhan (village), Olpad – Dist,**  
**Surat -395005, Gujarat**

**Unit Profile**

Rama News print & papers limited (RNPL) is one of the leading manufacturer of News print and Writing & Printing Paper in the Country. 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. The installed capacity of the mill is about 1, 32,000 tons per annum.

**Process Flow: as per Annexure -1**

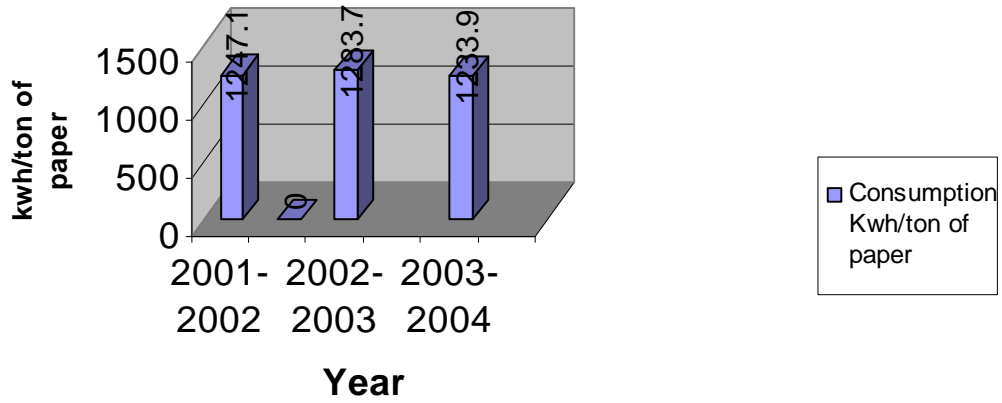
**Energy Consumption:**

Description	Unit	2001-2002	2002-2003	2003-2004
<b>Total Production (Saleable)</b>	Tons	85310.5	90110.2	104153.3
Total Electrical Energy Consumption /annum	Lakhs kwh	1063.9	1156.7	1285.2
Specific Energy Consumption (on Saleable Production)	Kwh/ton of paper	1247.1	1283.7	1233.9
Total Thermal (fuel ) consumption /annum	million kcal	258638.9	283936.9	327167.7
Specific Energy consumption Thermal (fuel)	million kcal / ton of Paper	3.03	3.15	3.14

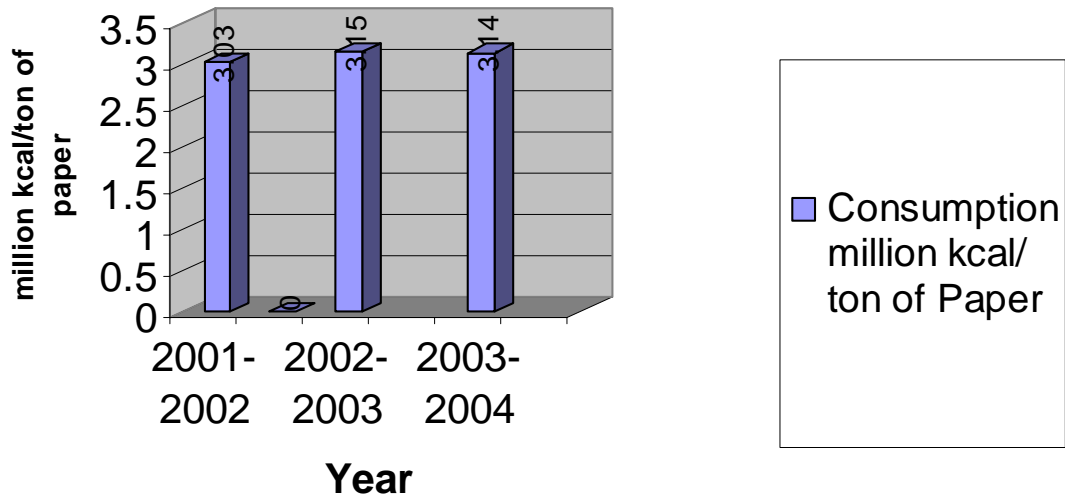
**Specific Energy Consumptions:**

Year	Electricity		Thermal (fuel)	
	Consumption Kwh/ton of paper	% reduction over 2001-2002	Consumption million kcal/ ton of Paper	% reduction over 2001-2002
2001-2002	1247.1	-	3.03	-
2002-2003	1283.7	(-) 2.9	3.15	(-) 3.96
2003-2004	1233.9	(+) 1.05	3.14	(-) 3.96

**Electical Enenergy Consumption Kwh/ton of paper**



**Thermal Consumption million kcal/ ton of Paper**



## **Energy Conservation Commitment, Policy and Set up:**

### **Energy Conservation SET UP: as per Annexure -2**

We have 6 (six) sub task forces under reporting to Chairman sub-task force (Energy Conservation) and coordinating by the Energy Manager. 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.

For any clarifications and final decisions on critical issues regarding to energy saving jobs will be discussed with Apex committee (with functional heads)

Report of all the energy conservation activities will be reported to President on monthly basis.

We carried out so many energy conservation jobs (the list and follows in the achievement).


### **Targets:**






- 1) Avg Specific Energy Consumption to brought down to 1050 kwh/ton of paper





### **Energy Conservation studies are carried in our mill by**

Sr.No.	Name of the Auditor	Period	Area covered
1	M/s Saket Projects limited Saket house, Panchesheel, Usmanpura, Ahmedabad -380013	November'2001	Audit in accordance with the statutory requirement of Gujarat use of Electrical energy (regulations) Audit covering Electrical systems, Water Pumping systems, compressed air leakage and thermal systems.
2	M/s Forbs Marshall ,Mumbai – Pune Road, kasawade, Pune- 411034	December'2000	Auditing of compressed air
3	M/s Mitcon Consultancy services	February'2002	Utility area

### **Achievements of Energy conservation**

Year of commissioning of the projects	Project description	Energy Saving		Implementation cost In Rs Lakhs
		Kwh/annum	Rs.in Lacs/annum	
2001-2002	1) Installation of Capacitors with APEC for GEB power factor improvement 2) Isolate cooling tower transformer for saving in No Load Losses	50400	6,66,000 1,26,000	

	3) Isolate one Colony transformer for saving in No Load Losses 4)	17,344	43,362	
	Sub total	67744	169362	
2002-2003	1) Two image wiring to reduce idle running of tube light in day time at identified locations 2) Installation of single 40 w tube light fixture near all transformer surroundings in place of sodium Lamps 3) Replacement of 400 W HPMV lamps by 150 W lamps in floating deinking 4) Installation of FRP fans in Place Aluminum fans of CT fans no 2 & 3 in cooling towers (utility)	31634 13140 12045 216 x 2 nos x 330 days = 1,42,560	79084 32850 30112	 
	Sub total	199379	427166	
2003-2004	1) By passed operation of Fine screen chest pump No 8 (75 kw) and agitator no 7 (11kw) in Flotation Deinking plant Bypassed 2) Stopping of 1 no Air Blower (132 kW ) of flotators in FDP 3) Replacement of Under loaded motors (4 nos) in Deinking Plant 4) Reduction of Illumination of Lighting at Krofta At FDP In Deinking Plant 5) Stopping one no air compressor (37 kw) out of 2 nos running for Krofta clarifiers (WDP & FDP) in Deinking Plant 6) Reduction of running hours of agitator (30 kw) of dump Broke Chest in Paper machine no -1	825.6 x 330 days = 272448 960 x 330 days = 316800 92.16 x 330 days = 30412.8 15.5 x 330 days = 5115 504 x 330 days = 166320 82.5 x 330 days = 27225	6,81,120 7,92,000 76032 12878.5 415800 68062.5 72187.5	  

	7) Reduction of running hours of agitator (37 kw) of dump Broke Chest in Paper machine no -2	87.5 x 330 days = 28875	11797.5	
	8) Inter lock operation of couch Pit agitators (22 kw) in Paper Machine no1	157.3 x 330 days = 4719	726000	
	9) ) Inter lock operation of dry end pulper no 1 (160 kw) in Paper Machine no1	880 x 330 days = 290400	726000	
	10) Inter lock operation of dry end pulper no 2 (160 kw) in Paper Machine no1	880 x 330 days = 290400	108487.5	
	11) Inter lock operation of couch Pit agitator no 1 (22 kw) in Paper Machine no2	131.5 x 330 days = 43395	154440	
	12) Inter lock operation of couch Pit agitator no 2 (30 kw) in Paper Machine no2	187.5 x 330 days = 61776	13,36,500	
	13) Inter lock operation of dry end pulper no 1 (160 kw) in Paper Machine no2	1620 x 330 days = 534600	990000	
	14) By passing operation of both top and bottom Size Press Rolls (68 kw each) for NP & W& P qualities at Present	1200 x 330 days = 396000	34,65,000	
	15) Generator frequency maintained at 49.8 ± .1	4200 x 330 days = 13,86,000		
	Sub total	3854486	9636306	
	Grand total of 3 years	4121609	10232834	

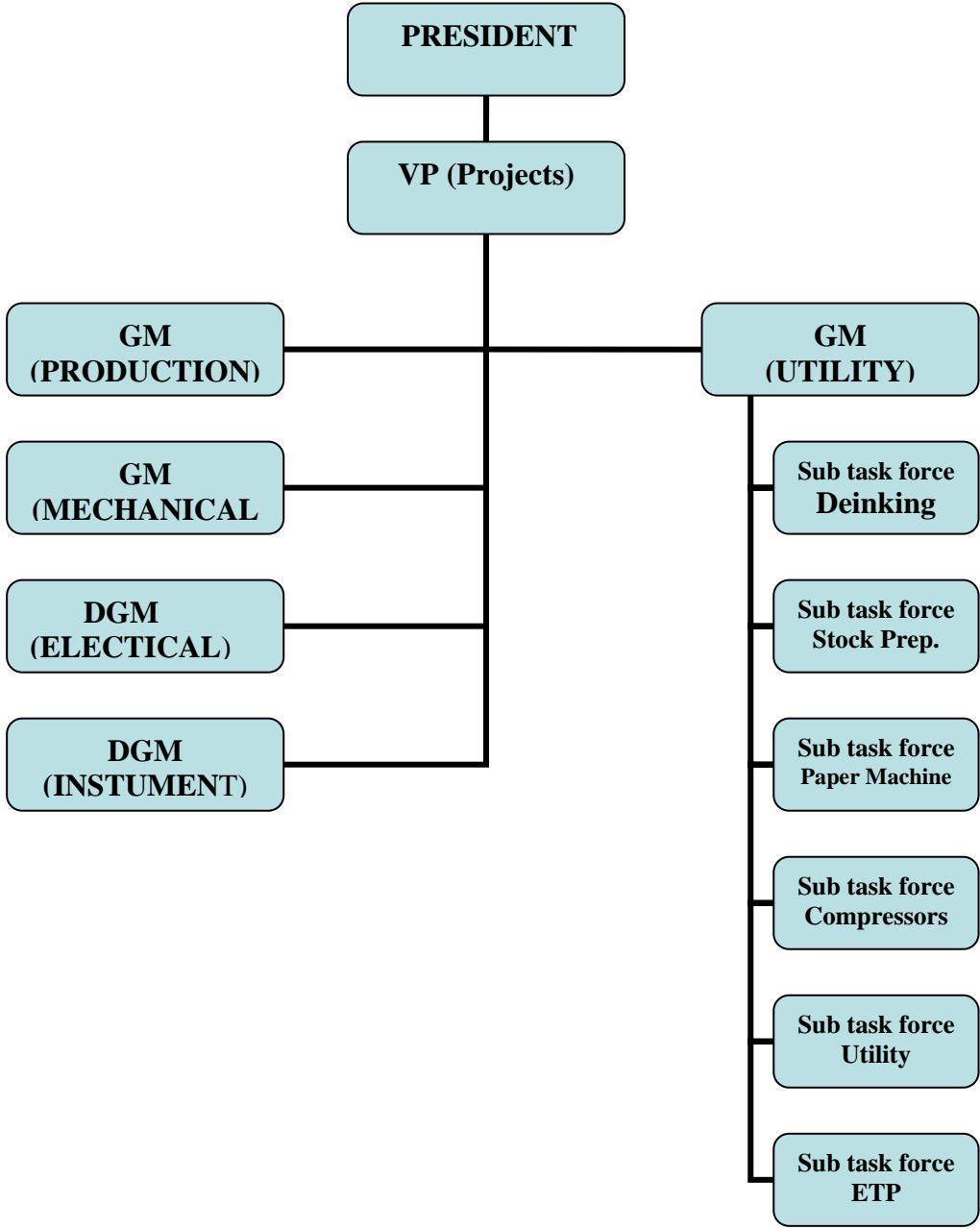
Note : unit cost is Rs 2.50 in the year 2003 -2004

**Energy Conservation Jobs Planned :**

Year	Project description	Estimated Energy Savings		Implementation cost In Rs Lakhs
		Kwh/annum	Rs.in Lacs/annum	

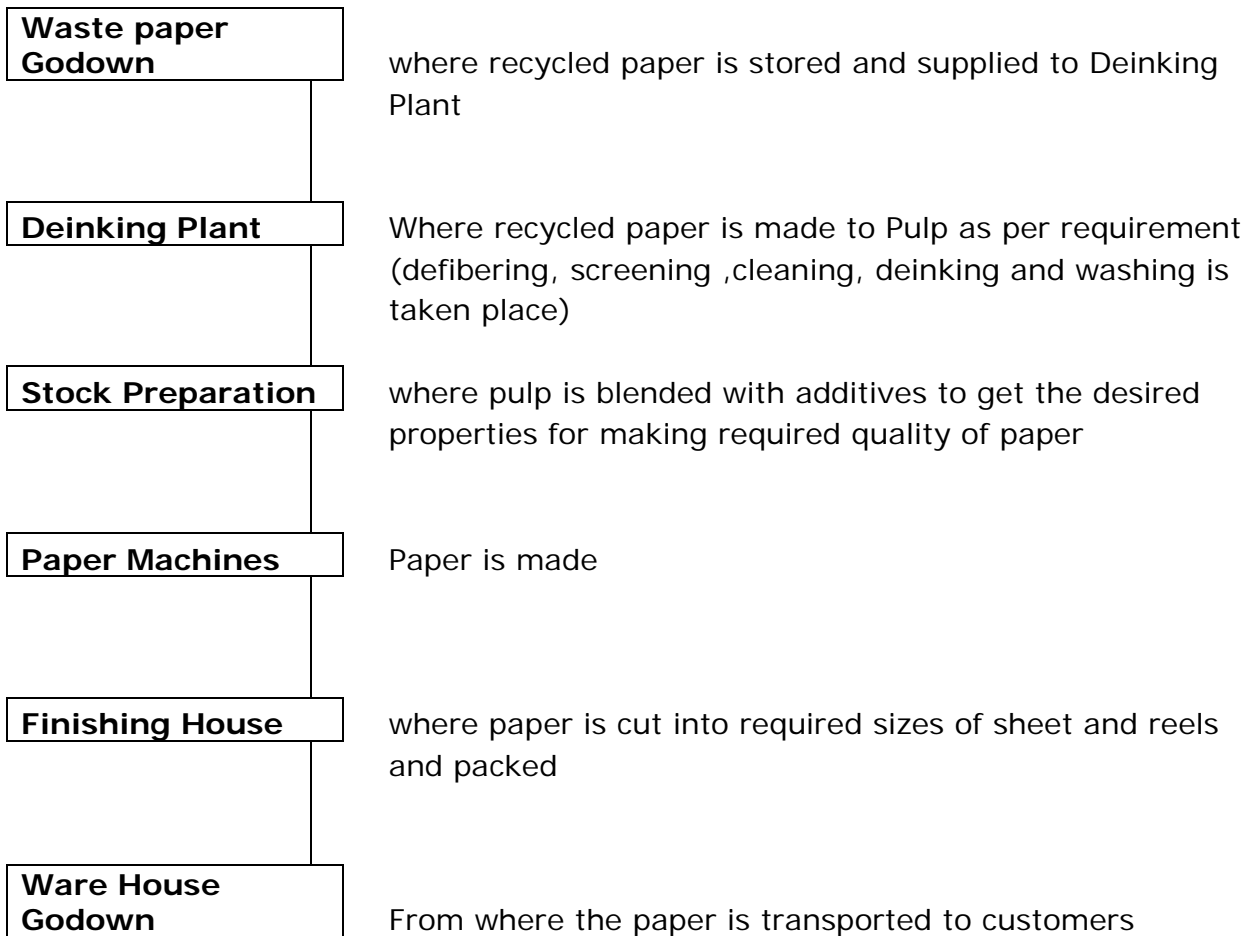
2003 – 2004	1)Replacement of Under rated motors with suitable Motors in Deinking Plant (3 nos) 2) By passing of Hot water pump (11 kw) in CAPP of Machine area 3) Inter lock operation of agitator (15 kw) of Starch Preparation Tank with Level in CAPP in Machine area 4) Installation of FRP fans in place of Aluminum fans (30 kw) of CT fans no 1& 4 in Cooling Towers (Utility)	204 x 330 days = 67,320  156 x 330 days = 51,480  22.5 x 330 days = 7425  216 x 2 nos x 330 days = 1,42,560  Total 268785	1,68,300  1,28,700  18,562.5  3,56,400	
2004 - 2005	Installation of New TG set ( 23 MW Extraction cum Condensing Turbine)			

**Annexure-2**  
**Energy conservation Team set up**



**Annexure-1**

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



**Note:**

M/s RNPL is making paper using waste paper (recycled fiber)

# Rama Newsprint & Papers Ltd.

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## Specific Energy Consumption:

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- The energy conservation activities includes recording, reporting, analyzing the electrical, thermal, air and water resources in the mill.
- Any clarifications and final decisions on critical issues regarding to energy saving jobs are discussed with Apex committee (with functional heads)
- Report of all the energy conservation activities will be presented to President on monthly basis.
- The list of Energy conservation jobs carried out by us and achievements are significant in comparison with similar industries.

### Target

**Average Specific Energy Consumption to brought down to  
1050 KWH / MT of paper**

## Energy Conservation studies are carried in our mill by External Agencies

	Name of the Auditor	Period	Area covered
1	M/s Saket Projects Limited Saket house, Panchesheel, Usmanpura, Ahmedabad -380013	November 2001	Audit in accordance with the statutory requirement of Gujarat use of Electrical energy (regulations) Audit covering Electrical systems, Water Pumping systems, compressed air leakage and thermal systems.
2	M/s Forbs Marshall, Mumbai – Pune Road, Kasawade, Pune-411034	December 2000	Auditing of compressed air Utilization and conservation.
3	M/s Mitcon Consultancy services	February 2002	Utility area

## Achievements of Energy conservation

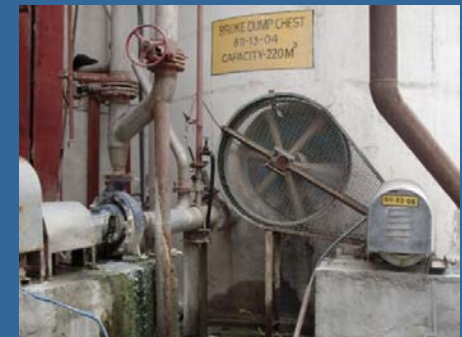
Year	Project description	Energy Saving	
		KWH / annum	Rs.Lacs / annum
2001 -	1. Installation of Capacitors with APEC for GEB power factor improvement 2. Isolate cooling tower transformer for saving in No Load Losses 3. Isolate one Colony transformer for saving in No Load Losses	50400	6,66,000
2002		17,344	1,26,000
	Sub total	67744	169362
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2003		13140	32850
		12045	
		216 x 2 nos x 330 days = 1,42,560	30112
	Sub total	199379	427166



2003-2004	1.By passed operation of Fine screen chest pump No 8 (75 kw) and agitator no 7 (11kw) in Flotation Deinking plant Bypassed	825.6 x 330 days = 272448	6,81,120
	2.Stopping of 1 no Air Blower (132 kW ) of floatators in FDP	960 x 330 days = 316800	7,92,000
	3.Replacement of Under loaded motors (4 nos) in Deinking Plant	92.16 x 330 days = 30412.8	76032
	4.Reduction of Illumination of Lighting at Krofta At FDP In Deinking Plant	15.5 x 330 days = 5115	12878.5
	5.Stopping one no air compressor (37 kw) out of 2 nos running for Krofta clarifiers (WDP & FDP) in Deinking Plant	504 x 330 days = 166320	415800



2003-2004 (contd -1)	1. Reduction of running hours of agitator (30 kw) of dump Broke Chest in Paper machine no -1	82.5 x 330 days = 27225	68062.5
	2. Reduction of running hours of agitator (37 kw) of dump Broke Chest in Paper machine no -2	87.5 x 330 days = 28875	72187.5
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	4. Inter lock operation of dry end pulper no 1 (160 kw) in Paper Machine no1	880 x 330 days = 290400	726000
	5. Inter lock operation of dry end pulper no 2 (160 kw) in Paper Machine no1	880 x 330 days = 290400	726000



2003-2004  (contd -2)	1. Inter lock operation of couch Pit agitator no 1 (22 kw) in Paper Machine no2	131.5 x 330 days = 43395	108487.5
	2. Inter lock operation of couch Pit agitator no 2 (30 kw) in Paper Machine no2	187.5 x 330 days = 61776	154440
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	Sub total	3854486	9636306
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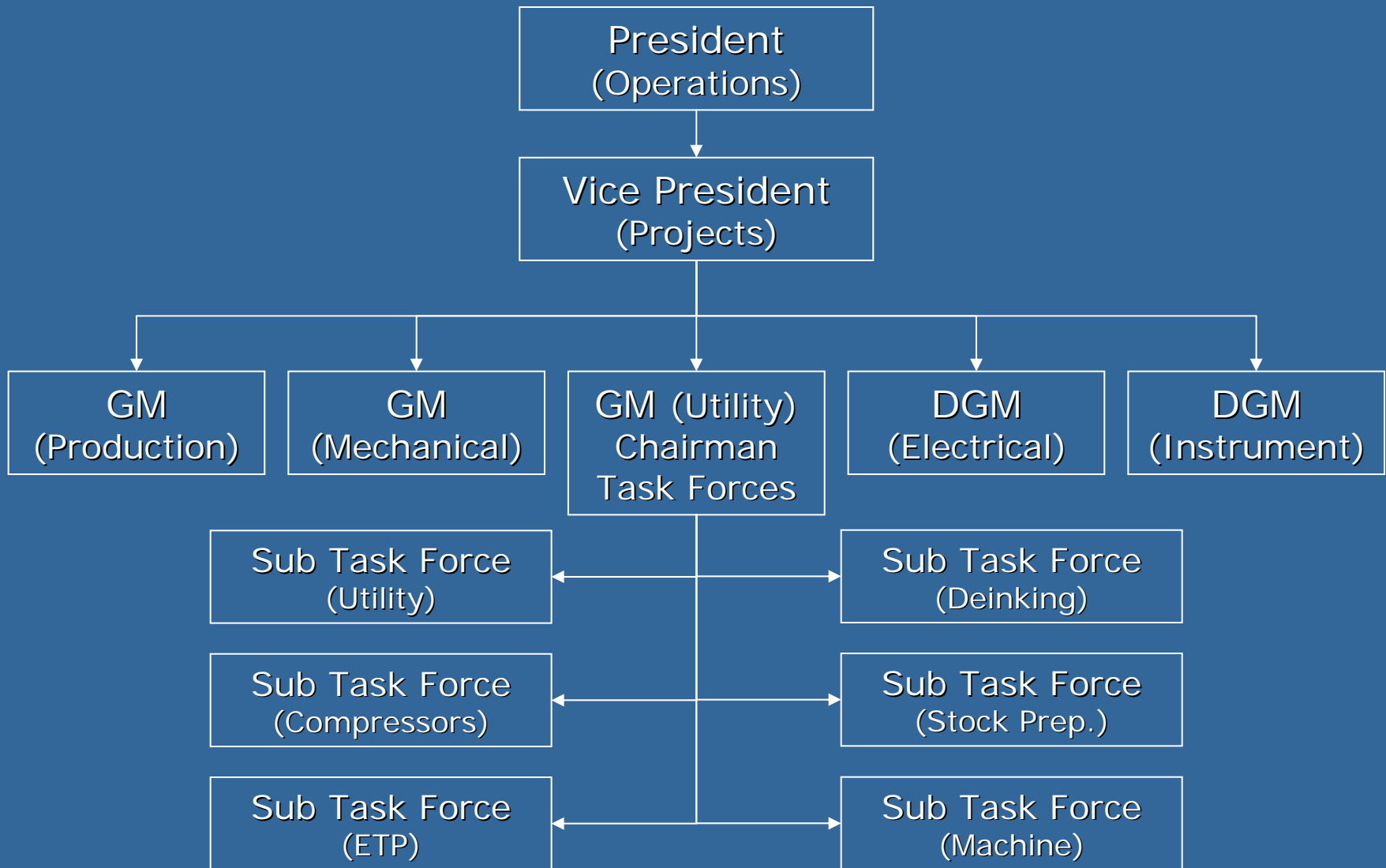


Note : unit cost is Rs 2.50 in the year 2003 -2004

## Energy Conservation Jobs Planned :

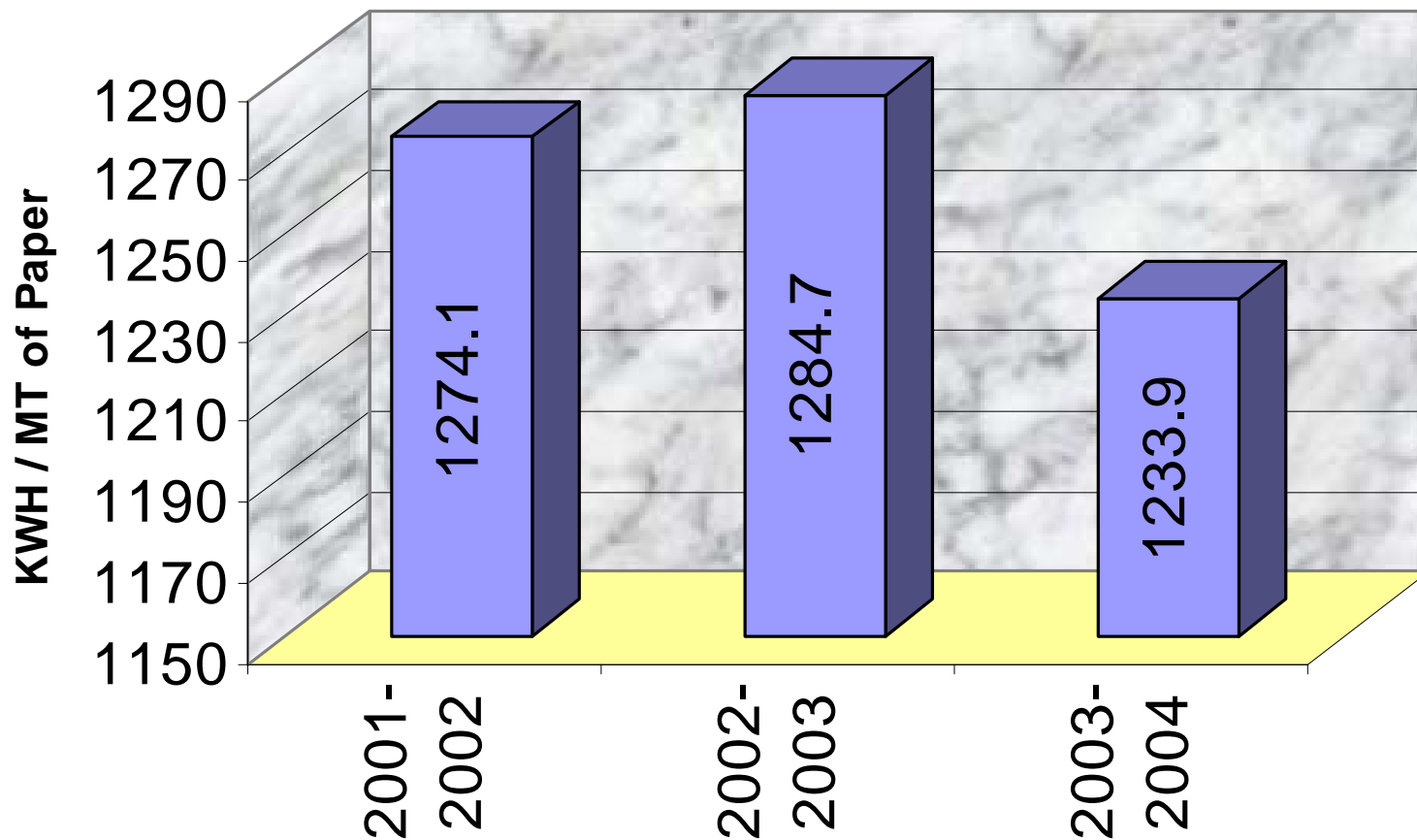
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	3. 3) Inter lock operation of agitator (15 kw) of Starch Preparation Tank with Level in CAPP in Machine area	22.5 x 330 days = 7425	18,562.5
	4. 4) Installation of FRP fans in place of Aluminum fans (30 kw) of CT fans no 1& 4 in Cooling Towers (Utility)	216 x 2 nos x 330 days = 1,42,560	3,56,400
		Total 268785	
2004 - 2005	Installation of New TG set ( 23 MW Extraction cum Condensing Turbine)		

## Annexure-2 Energy conservation Team set up



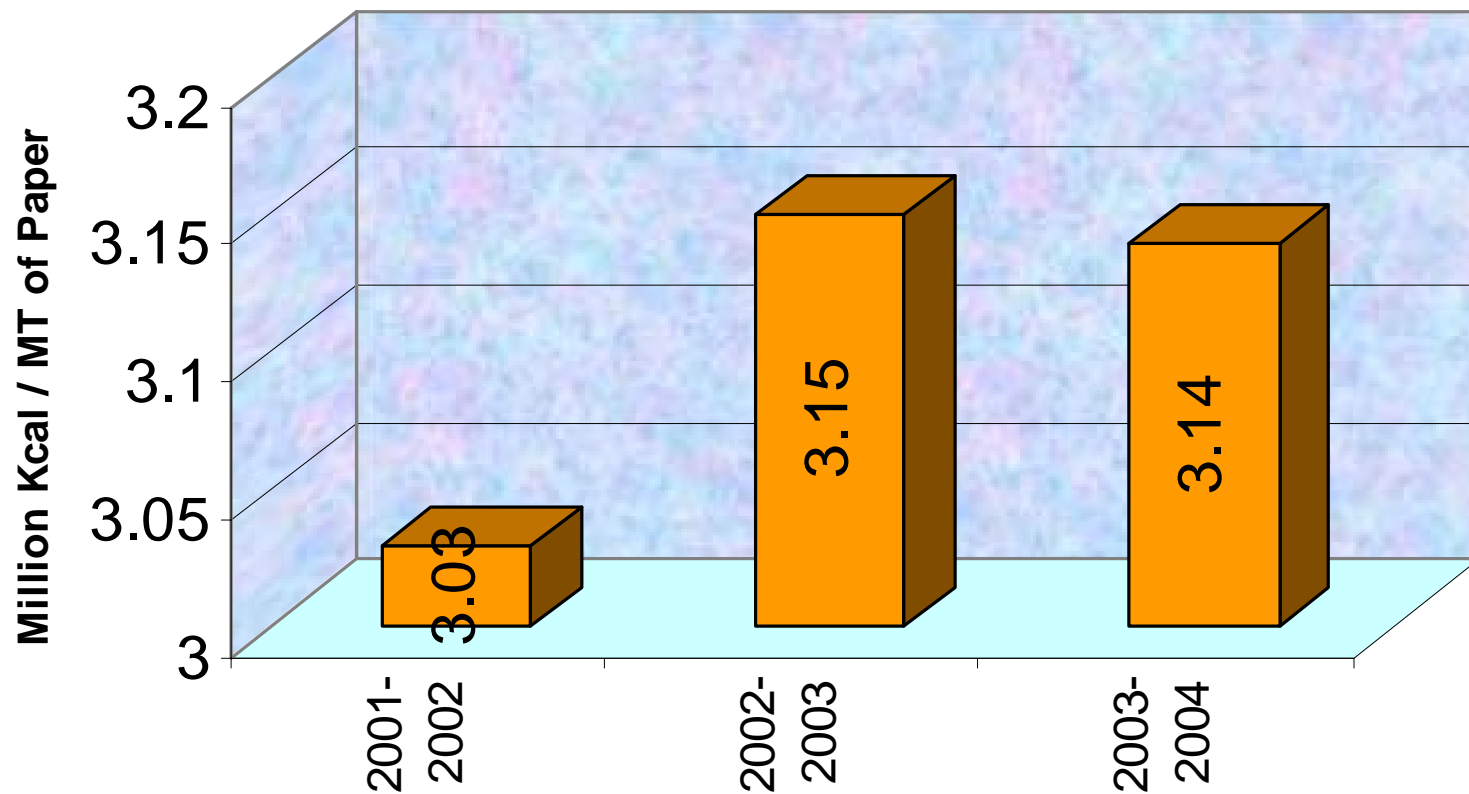
There was increase in the consumption in 2002-2003 because of many quality control equipment were added up. Due to regular monitoring and control measures, it again came down to present levels. There is on going continuous effort to minimize it further without affecting the quality of end product.

### Electrical Energy Consumption per MT Paper

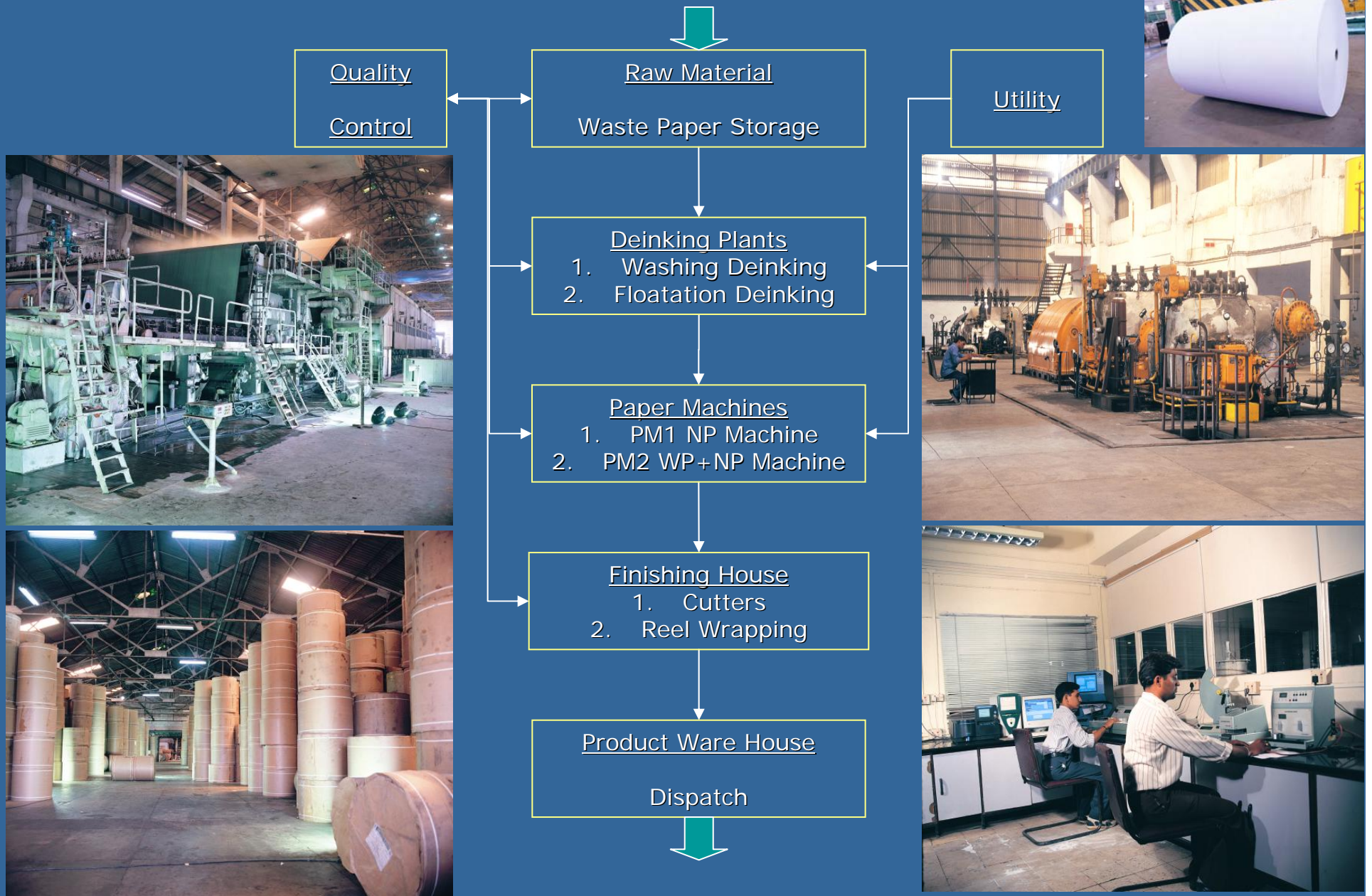


There was increase in the consumption in 2002-2003 because of many quality control equipment were added up. Due to regular monitoring and control measures, it again came down to present levels. There is on going continuous effort to minimize it further without affecting the quality of end product.

### Thermal Consumption Consumption per MT Paper



# Functional Diagram Of Manufacturing Process



Thank You.

END OF PRESENTATION