
RAYMOND LIMITED
(TEXTILE DIVISION-CHHINDWARA)

i) Unit Profile

Raymond Limited under the flagship of **JK Group** (Western Division) is undoubtedly Numero Uno in the Indian Textile Industry comprises of four units. **Textile Division-Chhindwara** The plant is at a distance of 57 kms. From “**Orange City**” Nagpur and 70 kms. From Chhindwara on Nagpur-Chhindwara road. The 100 acre plot stands as a pioneer in the socio-economic development of this region. is situated at Boregaon Industrial Growth Center, which became operational in April 1991. A composite plant manufacturing high quality, up market fabric in polyester-wool and polyester-viscose blends. It also has a subsidiary unit manufacturing furnishing fabrics. Unit has achieved 95.9% capacity utilization in the year 2001-02 which is considered very high in the Textile sector. The company’s flourishing presence in this region is a tribute to the cooperation of the people here. The success has promoted other projects in this region and improved the quality of life in general. This all round growth is an ongoing process at RAYMOND.



ii) Energy Consumption

DATA AT A GLANCE	2005-06	2006-07	2007-08
Annual Production	152.45	155.18	132.40
Total Energy consumption per annum KWH (lakhs)	549.51	592.48	561.74
Total Thermal Energy Consumption Million Kcal	57321.34	35236.26	30882.27
Total Manufacturing Cost in Rs. (lakhs)	23532.19	22947.41	19506.62
Total Energy Cost in Rs. (lakhs)	2317.37	2036.60	1831.69
Energy Cost as % of Raw-Material cost %	10.92	9.74	9.44

With the help of regression analysis i.e. benchmarking and historical analysis, increase in connected load of 4.34 % over last year (non-productive machines for enhancement of quality to meet the market Demand). Our Electrical specific consumption has increased by 10.99 %.

The reason for increase in electrical specific consumption is on account of installing some technologically advanced machines, which do not contribute to increase in overall production, and also labour unrest due to which there was a loss of 8.46 Lac Mtrs in production.

Description	Unit	2005-06	2006-07	2007-08
Electrical energy	kWh/mtr	3.60	3.82	4.24
Thermal energy	Kcal/mtr.	3760.01	2270.67	2332.50
Total manufacturing cost	Rs. Lakhs.	23532.19	22947.41	19506.62
Total energy bill	Rs. Lakhs.	2317.37	2036.60	1831.69
Energy as % of total cost of production.	%	10.92%	9.74%	9.44%
Connected load	kW	19332	20636	21532
% increase in connected load				4.34
% increase in Electric Specific Consumption				10.99

iii) Energy conservation commitments, policy & setup

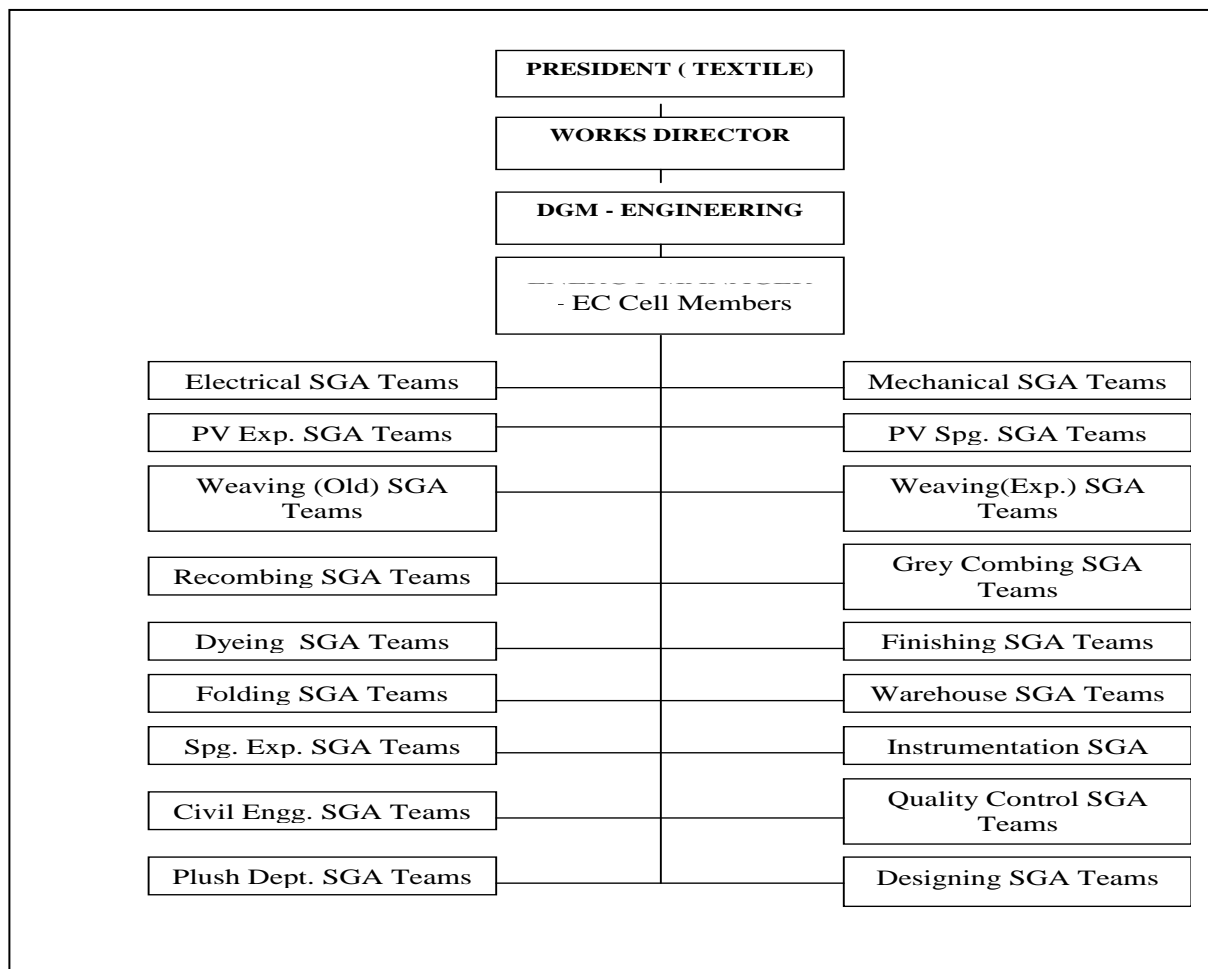
Section & equipment wise specific consumption is regularly monitored to know how much we are consuming & where. For this we are providing metering equipment in each of the utilities wherever possible to keep close watch on consumption pattern to avoid inefficiencies. In an unending venture to improve energy efficiency & optimization of all resources study and audits are carried out on every energy consuming equipment on its each aspect for conservation of energy. Different training programmes, seminars, are arranged for plant personnel for making them energy conscious which helps to keep a check on energy

consumption. We have released a Energy Management Policy & Environmental Policy 1st June 2002 for different commitments towards the organizational as well as national interests.

A clear-cut strategy has been formulated and full-fledged Energy Conservation Cell has been formed at corporate level & at unit level also. The Energy Conservation Cell is being well equipped with measuring instruments like Digital Load Manager, Flue Gas Analyzer, Pyro Meter & See-Tech Software package, Hygro Meter, Anemo Meter, Digital Energy Meter, Lux Meter Digital calibration meter etc. The implementation of energy conservation scheme through Energy Conservation Cell is given the highest priority. Based on the recommendation made by EC Cell and reviewed by various level committees, the decisions are taken for implementation of energy conservation programmes.

The Energy Conservation Cell at Raymond Ltd., Chhindwara is headed by Incharge Engg., who is reporting directly to President (Textiles) & Works Director to carry out energy audit and find out potential areas where energy can be saved.

ENERGY CONSERVATION CELL STRUCTURE



iv) *Energy Conservation Achievements*

ENERGY CELL ACHIEVEMENTS & INVESTMENT DETAILS OVER THE YEARS			
YEAR	ENERGY SAVING PER ANNUM		INVESTMENT RS. In Lakhs
	(Lakhs kWh)	Total Saving (Electricity + Fuel) Rs. In Lakhs	
2005 - 2006	9.97	192.61	53.09
2006 - 2007	5.55	27.20	11.89
2007-2008	10.66	42.63	51.06

Major projects implemented for Energy Conservation During 2007-2008

1. Automation of Compressor System



Automation of compressor system at Compressor room to reduced the power consumption. Due to this automation the power consumption reduced by 1.5 Lacs units per annum.

Investment : Rs. 8.00 Lacs.

Saving : Rs. 6.00 Lacs

2. Installation of Variable Frequency Drive on Top Dyeing Machines



Installation of Variable Frequency Drive for Turbo Pump Motors on 25 Nos. Top Dyeing M/cs. due to this automation the power consumption reduced by 6.73 Lac units per annum.

Investment : Rs. 32.00 Lacs.

Saving : Rs. 26.94 Lacs

3. Modification on Stenter Machine in Finishing Department



DC to AC system conversion on Stenter M/c's Corino. Due to this modification the power consumption reduced by 0.34 Lac units per annum.

Investment : Rs. 2.90 Lacs.

Saving : Rs. 1.37 Lacs

4. Installation of Variable Frequency Drive on Ring Frame M/c's. at Worsted Spinning Department.



Installation of Variable Frequency Drive for Suction Fan motor. Due to this modification the power consumption reduced by 0.83 Lac units per annum.

Investment : Rs. 5.60 Lacs.

Saving : Rs. 3.32 Lacs

5. Replacement of Motor on Rope Scouring Machine at Finishing Department.



Replacement of 30 HP Motor with 20 HP Motor on Rope Scouring Machine at Finishing Department. Due to this modification the power consumption reduced by 0.12 Lac units per annum.

Investment : Rs. 0.28 Lac.

Saving : Rs. 0.47 Lac.

6. Replacement of Motor on Nikki Press Machine at Finishing Department.



Replacement of 40 HP Motor with 20 HP Motor on Nikki Press Machine at Finishing Department. Due to this modification the power consumption reduced by 0.33 Lac units per annum.

Investment : Rs. 0.28 Lac.

Saving : Rs. 1.32 Lacs.

7. Modification of Suction System on Ring Frame Machine at Worsted Spinning Department.



Modification of Double Duct Double Motor Suction System with Single Duct Single Motor on Ring Frame Machines at Worsted Spinning Department. Due to this modification the power consumption reduced by 0.80 Lac units per annum.

Investment : Rs. 2.00 Lacs.

Saving : Rs. 3.22 Lacs.

v) ***Energy Conservation Plans and Targets***

Energy Conservation Measures (Planned)	Anticipated savings in		Approx. investment (Rs. Lakhs)	Project Commencement & Completion Year
	Energy Value (Specify units)	Rs. Lakhs		
Replacement of old rewinded and inefficient motors by high efficiency motors.	1.00 Lac KWH	4.00	5.00	2008-2009
Energy saving in lighting by replacing HPSV/Mercury Lamps Fittings with CFL.	0.90 Lac KWH	3.60	2.00	2008-2009
Energy saving by Modification of m/cs.	2.00 Lac KWH	8.00	0.50	2008-2009

vi) ***Environment and Safety***

We have identified major accident hazards and taken adequate step for Prevention and Control and provided to the persons working on the site; information, training, and equipment including antidotes. We have information safety data sheets. We are Encouraging personal to use protective equipment like ear plugs, safety goggles, safety shoes etc.

Steps taken for environment up-gradation

- We have installed new Bag Filter assembly in our Thermopac Unit for improving the emission quality.
- Similarly, we have installed Pneumatic Ash handling system by which the ash emitted out of Boiler is stored and then discharged through the hopper & Conveyor automatically.
- Till now we were treating wool scouring effluent in conventional manner and this procedure used to create sludge. Now we have appointed a consultant, who will implement the “Effective Microorganism Technology” consisting of two stages of treatments, i.e. anaerobic bacteria followed by aerobic bacteria stages. The entire pollution load of this stream will be degraded considerably by this special type of bacteria. This technology is originally developed in University of Okinawa (Japan).
- Along with Comprehensive EIA study, we are in the process of implementing ISO 14000 certification. For obtaining this certificate, we have appointed M/s. EQMS Pvt. Ltd., New Delhi. This will help our environment protection practices get strengthened.
- In the process, we have eliminated dyes and chemicals which were not Eco-friendly

Our Plant imparts an ideal image of co-existence of nature, man & Machine side by side. Of the total plant area, approx. 70% is green cover in the form of thousands of big shady trees.
