

RUCHI SOYA INDUSTRIES LIMITED. – MANGALORE
(A Unit of Ruchi Group – Mumbai)

Ruchi Group of Industries is a well-known industrial group based in Indore, MP with its various manufacturing units located in all over India. The group has its corporate headquarters in Indore, with offices in Mumbai, New Delhi, Calcutta, Chennai and other major business centers in the country. The Group's business interests vary in different commodities. It has manufacturing and trading facilities of Soya bean products, Agri-business, Oils and Fats, Flat Steel, Galvanized Steel & Cold Rolled Steel etc. The Group also has long exposure in trading of Oil, Pulses and other agriculture crops. The combined business turnover for the year closed on 31st March, 2007 stood at Rs.11500 Crores. Net worth is around Rs.1145 crores measures of public confidence in the Group is demonstrated by the presence of over 1, 20,000 investors in its various companies.

This plant located at Baikampady Industrial area, Mangalore with total capacity of 1300 TPD of refining edible oils like Soya bean, Palm, Sunflower etc. The unit started practicing ISO 9001:2000 as well as ISO 22000 (HACCP) standards and is recommended by BSI, an accreditation agency for certification.



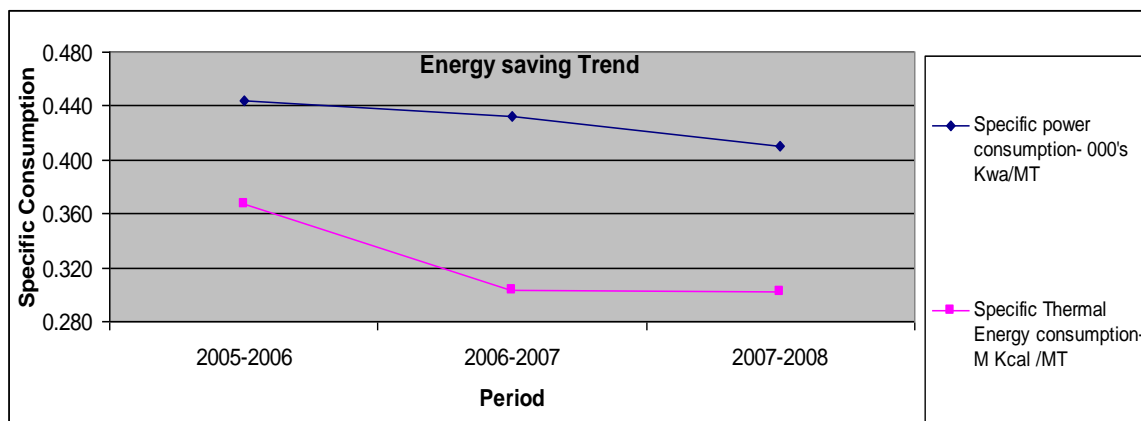
Energy Consumption

Oil and Fat processing industry is a major consumer of energy, as substantial quantities of steam and electrical power are consumed in refining operation. As a result, we at Mangalore unit had given major thrust and emphasis on the conservation of energy which would give reduced costs and edge on the market as the edible oil market is very volatile. We adapted best manufacturing practices and comparing the data with other units of the group yields best results for improvement. HO team also started working closely with individual plant teams in terms of manufacturing cost reduction thro' various energy conversation measures.

Description	Unit	2005-2006	2006-2007	2007-2008
Annual turn over	Rs: in Lakhs	84,871.45	96,026.44	57,318.06
Total manufacturing cost	Rs: in Lakhs	3,137.59	2,894.08	2,342.97
Electrical energy	Lk KWA / Year	130.151	115.300	105.170
Thermal energy	M K Cal / Year	107,913.00	80,827.00	77,592.00
Total energy Cost	Rs: in Lakhs	2,030.65	1,203.07	1,248.10
Energy Cost as % of manufacturing cost	Percentage	64.72	41.57	53.27
Specific power consumption	000'KWA / Tonne	0.444	0.432	0.410
Specific Thermal Energy consumption	M K cal / Tonne	0.367	0.303	0.302

Standards have been set based on the past data and continued conservation practices give the momentum to reach the goals. Bench marking is done internally based on internal as well as external figures. Apart from monitoring HO team also gives timely input as well as supports in achieving the same. The following figures will depict the out come of these efforts.

Note: - Out of all the efforts taken area where data's are captured are alone taken for this whole presentation. Remaining small on going projects are not included in this booklet.



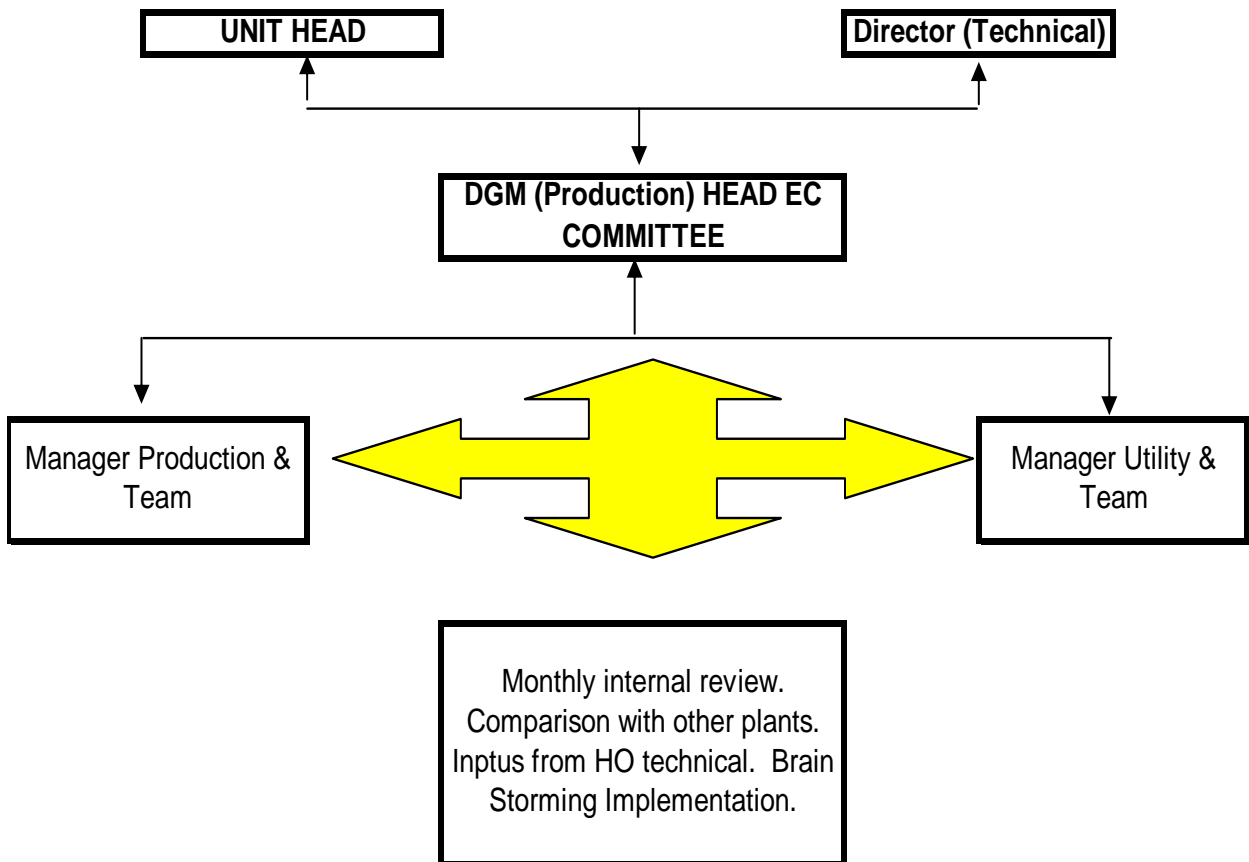
Energy Conservation Commitment, Policy and Set up.

RSIL forecasted the requirement of universe interns of saving energy and committed for the same. This factory has the Core team lead by Unit head and headed by DGM (Production). DGM (Production) has the production managers as well as Utility & maintenance managers along with their team below him.

HO technical team headed by Technical Director will also give the inputs and support on the proposals and process.

An Energy management Policy drafting is on.

Energy Conservation Team Structure.





17 sets of motors / pumps were replaced with lower rating motors
Investment Rs. 6, 30,000/-
Saving in first year itself Rs. 96, 68,000/-



Furnace Oil Thermic fluid boiler is replaced with coal fired boiler result in savings of huge quantum of energy
Investment Rs. 125,00,000/-
Saving in first year Rs.112, 56,000/-



Introducing VFD instead of belt / gear power transmission / reduction at 8 places
Investment Rs. 11, 20,000/-
Saving in first year
Rs.19, 80,000/-



55 kw motor pump in the cooling tower circuit was removed by introducing a balance tanks at high altitudes their by the pumping back was avoided-03 sets
Investment Rs. 5, 00,000/-
Saving in first year itself
Rs. 64, 70,000/-



Drum type filter with 230 hp motors was replaced by new netszh membrane filter with 37.5 hp motors

Total investments
Rs. 125, 00,000/-

Savings in first year
Rs.56, 28,000/-

Energy Conservation Achievements in 2006-2008

Following table will describe the number of implementation with details of the outcome on energy conservation.

Year of Commissioning of the projects	Projects description	Achievement of energy savings per year basis					Investment Incurred on the project (Rs.Lakhs)	
		Electricity (Lakhs) (kWh)	Fuels				Total savings in (Rs.Lakhs)	
			Coal (Tones)	Diesel (KL)	F.Oil (KL)	Total (Fuel) In MKcal)		
2006-2007	Old type drum filter (with 230 hp motors and pumps) replaced by new netszh filter (with 37.5 hp pumps & motors) which is 20% more productive also.	11.37					56.28	125.00
	55 kw motor pump in the Colling tower circuit was removed by introducing a balance tanks at high altitude their by the pumping back was avoided-03 sets	13.07					64.70	5.00
	For thermic fluid boiler Burners as well as electrifications were changed to use Furnce oil instead of Diesel			1265	-116.31	12245.90	367.89	12.50
	Sub Total	24.44		1265	-116.31	12245.90	488.87	142.50
2007-2008	90 kw Motor pump in the cooling tower was replaced by 55 kw	2.77					13.71	1.50
	55 kw motor pumps in the clean Cooling tower -2 sets were replaced by 30 kw & 18.5 kw motor pumps	4.87					24.11	2.00
	22 kw Motors in the crystallizers agitators were replaced by 11 kw- 6 sets	0.97					4.80	1.00
	18.5 kw water pumps in the crystallizers replaced by 7.5 kw pumps- 6sets	5.22					25.84	1.00
	Chiller which was running with 37.5 kw motor pump was replaced by 18.5 kw	1.50					7.43	0.30
	75 kw process water pump motor for crystallizers replaced by 22 kw	4.20					20.79	0.50
	Chiller which was running with 200 kw motor was removed	15.84					78.41	0.00
	Water pump motor of 15 kw for above chiller was	1.19					5.89	0.00

	removed							
	22 kw water pumps in the crystallizers process were removed-2 sets	3.48					17.23	0.00
	Temperature controller introduced in the colling tower fan motor.	0.04					0.20	0.18
	Speed reduction in thermic fluid Boiler ID,FD & PA fans are converted thro" VFD introduction instead of conventional reduction.	1.44					7.13	1.20
	Thermic fluid boiler was changed to use coal instead of Furnace oil		- 1173.0 0		754.00	1968.25	112.56	125.00
	VFD introduced in oil pumps-8 nos	2.56					12.67	10.00
	Sub Total	44.08	- 1173.0 0	0.00	754.00	1968.25	330.76	142.68
	Grant total of 3 years	68.52	- 1173.0 0	1265	637.69	14214.15	819.62	285.18

Energy Conservation Plan & Targets for the year 2008-09.

Following table brief the action plan for the current financial year. The list is only comprehensive.

Energy Conservation Measures (Planned)	Anticipated Savings in		Approx. investment (Rs.lakhs)	Project Commencement & Completion year
	<u>Energy Value</u> (specify units)	<u>Rs. Lakhs</u>		
APFC panel for power factor improvement.	0.72 lk KWH	3.56	1.50	2008-09
10 motors at different places are planned to replace with lower rating	2.2 lk KWH	10.89	3.00	2008-09
Cooling tower blade to be replaced with FRp- 2 sets	0.82 lk KWH	4.00	0.80	2008-09
Oil heating through flash steam & recovery	3240 M Kcal	26.00	2.00	2008-09
separate priming vessel for all cooling tower pumps	0.24 lk KWH	1.10	0.25	2008-09
CFL for street light	1.6 lk KWH	7.90	1.00	2008-09

Condensate recovery from the plant	10000 M Kcal	80.00	5.00	2008-09
Air leakage arresting at all places	to be quantified			2008-09

And will get added on move.

Environment and safety

RSIL has committed for plant safety. The unit has the plan of Implementing and get certified on ISO 14001 & OSHAS, immediately after streamlining ISO 9001:2000 standards.

OSHAS

On occupational health and safety the unit has its own team guided by external experts organized by HO. The experts makes periodical audit and also give suggestions for improvement.

Water Effluent:-

The Unit has got state of art technology effluent treatment plant which is approved by Pollution Control Board. Copies of certificates are enclosed.

Air :

All boiler chimneys are of appropriate height and approved by Pollution control board. Copies of certificates are enclosed.

Solid Waste:

All solid waste are all appropriately disposed for reusing by the purchaser. Appropriate places also identified for storing and disposal there by avoiding unwanted hazards.