

MOTHER DAIRY, DELHI

(i) Unit Profile

"Mother Dairy" is the single largest brand of milk in India as well as in Asia, marketing about 2.2 million litres of milk per day. Mother Dairy commands 40% market share in the organised sector in and around Delhi, primarily because of consistent quality and service - what ever be the crisis- floods, transport strike, curfew etc. Mother Dairy, Patparganj, Delhi, is presently manufacturing & selling around 8.5 lakh litres of toned milk through bulk vending shops.

Mother Dairy, Delhi is an IS/ISO-9001:2000 and Hazard Analysis Critical Control Points (HACCP) and IS-14001:1996 Environment Management System (EMS) Certified organisation. Mother Dairy was the first Dairy in the country to implement ISO-14031 (Environment Performance Evaluation) project. The company's Quality Assurance Laboratory is ISO/IEC-17025:1999 certified by NABL (National Accreditation Board for Testing and Calibration Laboratory), Department of Science & Technology, India. This provides assurance to the consumer in respect of Quality and Safety of products manufactured and marketed by Mother Dairy.

The National Dairy Development Board (NDDB) commissioned Mother Dairy in the first phase of Operation Flood in 1974. Considering the success of Dairy industry NDDB established Fruit & Vegetable Project in Delhi in 1988 with "SAFAL" as its umbrella brand.

With a view to separating the commercial activities from developmental activities, the NDDB merged Mother Dairy and the Fruit & Vegetable project into a wholly owned company named Mother Dairy Fruit & Vegetable Ltd (MDFVL) in April 2000. This becomes the holding company of Mother Dairy India Ltd (MDIL) - a marketing company and Mother Dairy Foods Processing Ltd (MDFPL) - a processing company. MDFPL is a multi unit company, with units at various locations in India. Mother Dairy, Delhi is one of the units of MDFPL.

The company is a highly trusted household name for its wide range of milk products like Milk, Flavoured Milk, Ice-Cream, Dahi, Lassi, Table Butter, Dairy Whitener, Ghee etc.

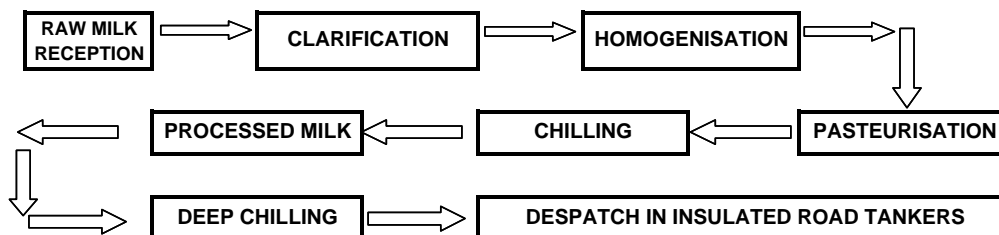
The application for the award is being made for Mother Dairy, Delhi unit.

Mother Dairy has taken up the concept of Total Productive Maintenance (TPM) whole heartedly. The number of employees involved in KAIZENS and the no. of KAIZENS per employee are very encouraging. Mother Dairy is a member of CII-TPM Club and the KAIZENS done by Mother Dairy employees have been selected and presented in 2nd, 3rd, 4th and 5th National Kaizen Conferences held from time to time during the last three years. Our TPM efforts have resulted in increase in MTBF and decrease in MTTR, quality improvement, Cost reduction and reduction in accidents.

Mother Dairy has received "Best Productivity Performance" award for three consecutive years starting from 1987-88 to 1989-90 and again from 1995-96 to 1997-1998 from National Productivity Council and a commendation Certificate for Rajiv Gandhi National Quality Award, National Energy Conservation Award - 2004, Oil and Gas Conservation Award - 2004, Indian Innovation Award - 2004 and Safety Initiative Award - 2005.



Process Flow Chart

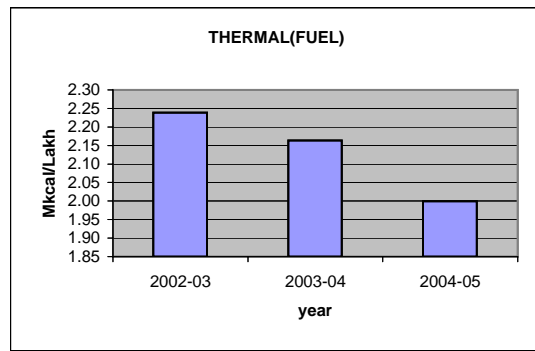
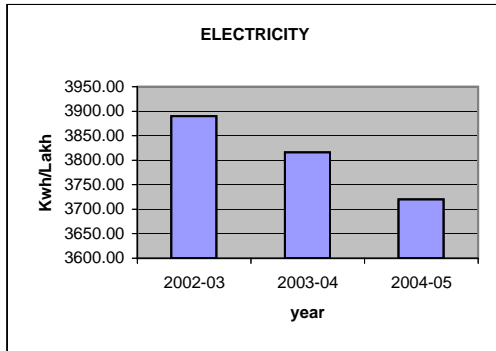


(ii) Energy Consumption

There has been steady decrease in Electrical & Thermal consumption per equivalent lakh litres of milk due to implementation of various energy conservation improvements.

DESCRIPTION	UNIT	2002-03	2003-04	2004-05
Annual milk production	Lakh litres	2525.8	3073.3	3047.75
Total electrical energy consumption /annum	Lakh Kwh	98.25	117.28	113.39
Specific energy consumption-Electrical	Kwh/Lakh	3889.86	3816.09	3720.45
Total Thermal(Fuel) consumption /annum	Mkcal	5653.63	6650.13	6092.73
Specific energy consumption-Thermal(Fuel)	Mkcal/Lakh	2.24	2.16	2.00

YEAR	ELECTRICITY		THERMAL(FUEL)	
	Consumption (Kwh/Lakh)	% reduction over 2002-2003	Consumption (Mkcal/Lakh)	% reduction over 2002-2003
2002-03	3889.86	-	2.24	-
2003-04	3816.09	1.90	2.16	3.33
2004-05	3720.45	4.36	2.00	10.69



Include information on total energy consumption (i.e. coal, oil, gas, electricity and money value). Information on energy consumption in terms of percentage of manufacturing cost should also be presented. Also, it should highlight the specific energy consumption for the period 2002-2003 , 2003-2004 & 2004-2005. Good Computer Graphic Presentation related to Specific Energy Consumption may also be incorporated.

- (iii) Energy Conservation Commitment, Policy and Organizational Set up
(Please include a photo copy of unit's Energy Conservation Policy, if decided)

ENERGY MANAGEMENT POLICY

We at Mother Dairy Food Processing Ltd. Commit ourselves for optimum utilization of energy in all of our manufacturing nactivities as well as in office by:

Monitoring closely and controlling the consumption of various forms of energy through an effective Energy Management System.

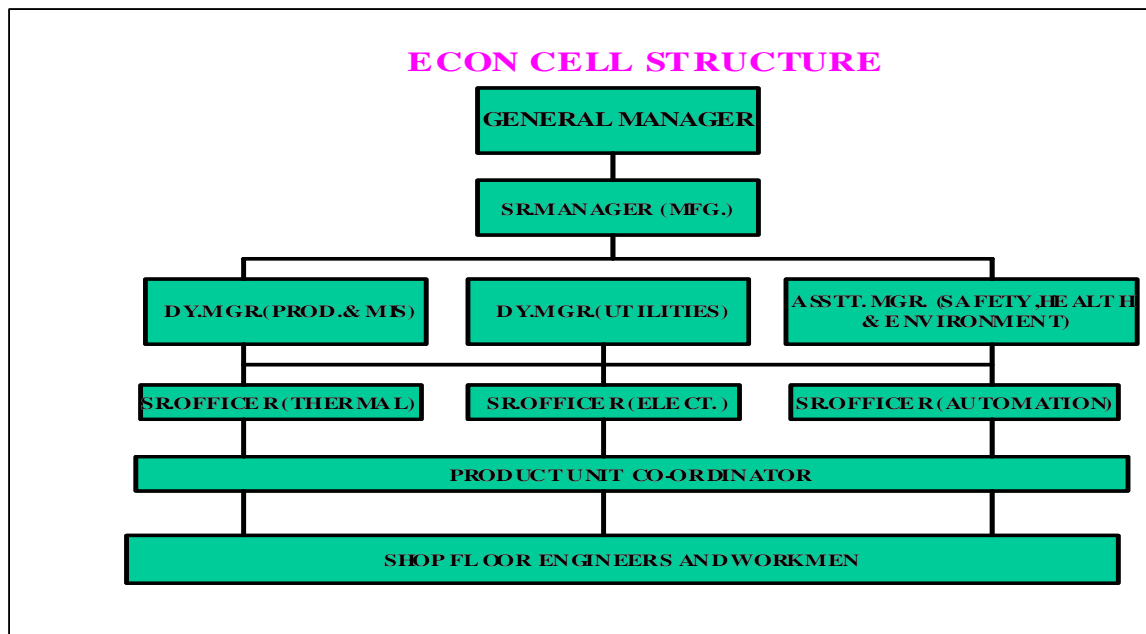
All round participation of all employees and educating them about energy conservation.

Maximum utilization of renewable energy sources.

Upgradation of processes, technology and use of energy efficient equipments.

Optimum utilization of plant capacity.

As a part of our energy conservation and environment protection commitments, we shall reduce our specific energy consumption.



- (iv) Energy Conservation Achievements
 Include one paragraph write-up on each major energy conservation project implemented during the year 2004-2005 only.
During the period 2004-05, Mother Dairy Delhi implemented around 408 energy saving proposals through engineering initiatives, Worrkmen's suggestions schemes, auditors suggestions and TPM methodology resulting into total savings of Rs.51.49 lakhs with an investment of 168.50 lakhs. This has resulted in a reduction of 2.52% in specific electrical energy consumption and 1.99% in specific thermal energy consumption. In water conservation also the unit has reduced the consumption of water by 19.8%.

Major projects implemented during the year 2004-05 are listed below:

ENERGY CONSERVATION PROJECTS

1 REPLACEMENT OF OLD PASTEURIZER OF LOWER REGENERATION EFFICIENCY WITH HIGHER REGENERATION EFFICIENCY PASTEURIZER

Investment :	Rs.17.5 lakhs
Before installation :	
Consumption of referigration units	280320 TR/annum
consumption of LDO	91980 Ltrs/annum
After installation :	
Consumption of referigration units	210240 TR/annum
consumption of LDO	65700 Ltrs/annum
Saving in :	
referigration units	70080 TR/annum
LDO	26280 Ltrs/annum
Saving :	Rs.9.47 lakhs/annum



**2 USE OF MICRO GAP VALVE IN PLACE OF POPPET VALVE
IN HOMOGENISER(REDUCTION IN PRESSURE FROM 2000 PSI TO 1600 PSI)**

Investment :	Rs.10.0 lakhs
Before installation :	
Consumption of electrical energy	562100 Kwh/annum
After installation :	
Consumption of electrical energy	459900 Kwh/annum
Saving in :	
electrical energy	102200 Kwh/annum
Saving :	Rs.4.97 lakhs/annum

**3 REPLACEMENT OF RECIPROCATING AIR COMPRESSORS WITH
ENERGY EFFICIENT SCREW AIR COMPRESSORS**

Investment :	Rs.12.0 lakhs
Before installation :	
Consumption of electrical energy	374490 Kwh/annum
After installation :	
Consumption of electrical energy	291708 Kwh/annum
Saving in :	
electrical energy	82782 Kwh/annum
Saving :	Rs.4.02 lakhs/annum

**4 INSTALLATION OF HEAT PUMP FOR REMOVING WASTE HEAT
FROM REFRIGERATION SYSTEM**

Investment :	Rs.69.0 lakhs
After installation :	
Saving in :	
LDO	76992.48 Ltrs/annum
Saving :	Rs.15.76 lakhs/annum



**5 REPLACEMENT OF MANUAL CONTROLLED BURNER WITH
AUTO CONTROLLED ENERGY EFFICIENT BURNER**

Investment :	Rs.20.0 lakhs
After installation :	
Saving in :	
LDO	24400 Ltrs/annum
Saving :	Rs.4.99 lakhs/annum

**6 LAYING OF STEAM LINE FROM MILK PLANT BOILER
TO ICECREAM PLANT**

Investment :	Rs.40.0 lakhs
After installation :	
Saving in :	
LDO	60000 Ltrs/annum
Saving :	Rs.12.28 lakhs/annum

(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		
Installation & Commissioning of O2 Analyzer & Auto Blow down system for Boiler	21.75 KL of LDO	4.35	15.00	2005-06
Substitute of LDO with PNG for Boiler	Saving on account of lower price of PNG by	30.00	70.00	2005-06
Replacement of 1 No. old pasteuriser to increase regeneration efficiency from 83% to 93%	84,000 KWH Electrical energy & 28.26 KL of LDO	8.80	16.50	2005-06
Repacement of over size motors2 Nos.(chilled water) with optimum size(15KW to 11KW)	70,000KWH Electrical energy	3.15	0.80	2005-06
Installation of VFD for Condensor Pump(45 KW)	98,550KWH Electrical energy	4.45	6.00	2005-06
Installation of power conditioning equipment to reduce electricity losses due to unbalance voltage,harmonics etc.	3,96,600KWH Electrical energy	19.03	52.00	2006-07
Installation of VFD for Ammonia Screw Compressor(375 KW)	1,97,100KWH Electrical energy	9.46	15.00	2006-07

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