

## Unit Profile

"Mother Dairy" is the single largest brand of milk in India as well as in Asia, marketing about 2.2 million liters of milk per day. Mother Dairy commands 40% market share in the organized 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 liters per day of toned milk through bulk vending shops. Additionally, around 13.5 lakh liters of milk per day in poly packs is marketed by Mother Dairy. this milk is got custom packed from the units of various State Federations.

Mother Dairy, Delhi is an IS/ISO-9001:2000, ISO:22000:2005 and IS-14001:2004 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, Flavored Milk, Ice-Cream, Dahi, Lassi, Table Butter, Dairy Whitener, Ghee etc.

The application for the award is being made for Mother Dairy (Milk Plant), Delhi unit.

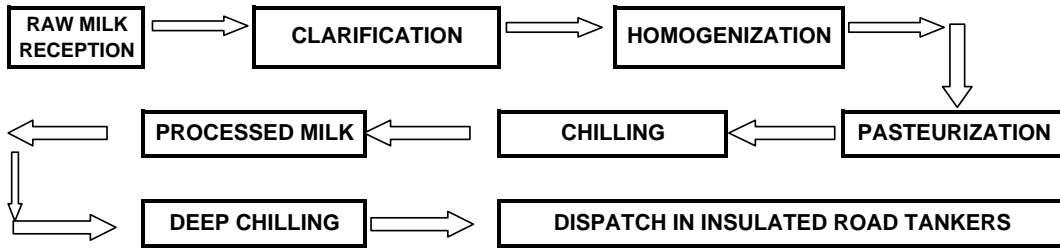
Mother Dairy has taken up the concept of Total Productive Maintenance (TPM) whole heartedly. The number of employees involved in KAIZENS and the no. of KAIZENS per employee are very encouraging. Mother Dairy is a member of CII-TPM Club and the KAIZENS done by Mother Dairy employees have been selected and presented in 2nd, 3rd, 4th, 5th and 6th 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 and 2005, Indian Innovation Award - 2004 and Safety Initiative Award - 2005.





## Process Flow Chart

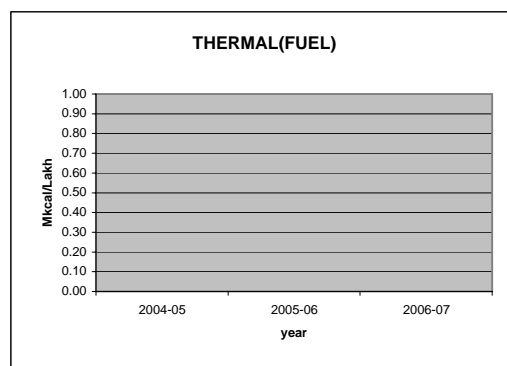
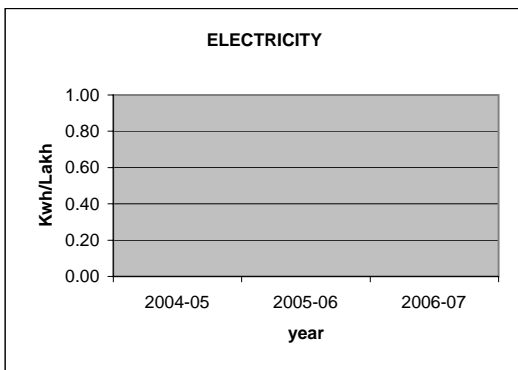


### (ii) Energy Consumption

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

DESCRIPTION	UNIT	2004-05	2005-06	2006-07
Annual milk production	Lakh liters	#REF!	#REF!	#REF!
Total electrical energy	Lakh Kwh	#REF!	#REF!	#REF!
Specific energy consumption-	Kwh/Lakh	#REF!	#REF!	#REF!
Total Thermal(Fuel) consumption	Mkcal	#REF!	#REF!	#REF!
Specific energy consumption-	Mkcal/Lakh	#REF!	#REF!	#REF!

YEAR	ELECTRICITY		THERMAL(FUEL)	
	Consumption (Kwh/Lakh)	% Reduction over 2004-2005	Consumption (Mkcal/Lakh)	% Reduction over 2004-2005
2004-05	#REF!	-	#REF!	-
2005-06	#REF!	#REF!	#REF!	#REF!
2006-07	#REF!	#REF!	#REF!	#REF!



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 2004-2005, 2005-2006 & 2006-2007. 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)  
**Mother Dairy has an Energy Management Policy. Photo copy enclosed**

- (iv) Energy Conservation Achievements  
Include one paragraph write-up on each major energy conservation project implemented during the year 2006-2007 only.

**During the period 2005-06, Mother Dairy Delhi implemented around 386 energy saving proposals through engineering initiatives, Worrkmen's suggessions schems, auditors suggessions and TPM methodology resulting into total savings of Rs.85.49 lakhs with an investment of 148.50 lakhs.**

**Major projects implemented during the year 2006-07 are listed below:**

### **ENERGY CONSERVATION PROJECTS**

#### **1 Measures taken for fuel conservation:**

- a) Installation of Pressure powered pump and steam vessel for flash steam recovery and condensate recovery.**



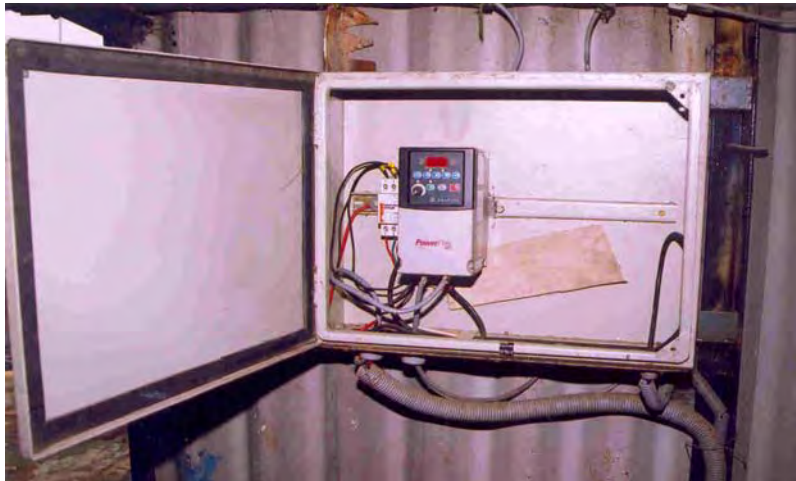
- b) New Energy efficient butter melting system with indirect steam injection in place of direct heating with temperature controls.**



c)Replacement of 1 No. old pasteurizer to increase regeneration efficiency from 83% to 93%



d)Installation of V.F.D for hot water pump for Ice cream plant from heat pump installed at milk plant.



Investment : Rs.54.5 Lakhs/annum

Saving in LDO/PNG : 2.11 Lakhs SCM/annum

**Saving : Rs.42 Lakhs/annum**

**2 Installation of Power Quality System using RLC circuit for electrical load other than process and water supply.**

Investment : Rs.42 Lakhs/annum

Saving in KWH : 3.2 Lakhs/annum

**Saving : Rs 16 Lakhs/annum**



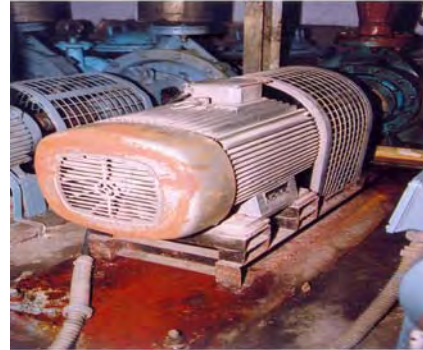
**3 Installation of 2 no.s of VFD for Air blower of burners.**

Investment : Rs.1.05 lakhs/annum  
Saving in KWH: 0.29 Lakhs/annum  
**Saving : Rs.1.44 Lakhs/annum**



**4 Replacement of 2 No.s of chilled water pumps from 15 KW to 11 KW.**

Investment : Rs.1.5 Lakhs/annum  
Saving in KWH: 0.7 lakhs/annum  
**Saving : Rs 3.5 lakhs/annum**



**5 Setup of energy management system (SCADA) for monitoring of power quality and control of Max. Demand**

Investment : Rs.38 Lakhs/annum  
Saving in KWH: 1 Lakhs/annum  
**Saving : Rs.5 Lakhs/annum**



## Environment and Safety

(A sample write up is attached at Annexure `C' for ready reference).

**Mother Dairy, Delhi is committed to the protection of environment by Prevention of Pollution and continual improvement in our processes and systems to improve Environmental Performance. The company is ISO-14001:2004 (EMS) certified by BUREAU VERITAS. Mother Dairy was the first industry in country to implement ISO-14031 (Environment Performance Evaluation) project.**

**The following steps are taken and on going efforts are continuously made as per our "Management Systems Policy"**

- Minimise waste generation
- Conservation of resources
- Use of renewable energy
- Recycling & reuse

The Effluent Treatment Plant (ETP) was installed at the inception of the Dairy Plant. The company complies with applicable regulations and legislations of Delhi Pollution Control Committee (Department Of Environment, Govt. of NCT of Delhi). The Dairy has reduced drastically total effluent generation and water consumption during the period 2005-06 to 2006-07.

The water consumption has been reduced over the year as a result of the implementation of following initiatives:

| Installation of water recuperation system in the year 2001-02 where in the final water rinse quantity after Cleaning In Place (CIP) is taken in the water recuperation tank for reuse as the initial rinse in the subsequent CIP operation.

| In-house water audit is carried out every year and by a continual process of educating the employees about the importance of water conservation and motivating them to do KAIZENS directed to reduce water consumption.

| Water consumption in all the activities in the Dairy is regularly monitored with the help of data furnished by magnetic flow meters installed at various locations.

| The effluent treated water is recycled for reuse in the lush green gardens of Dairy campus spread over an area of 36 acres.

The Dairy has installed a Solar Plant and heat pump for hot water generation and solar/waste heat recovery to the tune of 520 M kcal per annum is achieved through it.

The Dairy has carried out Rain Water Harvesting by dividing the entire premises into six zones to harvest maximum possible potential of rain water run-off available in the campus. Accordingly we have constructed rain water harvesting structures at the locations that experience water logging in each of the zones during rainy season. By this we have achieved increase in water table ranging from 30 cms to 150 cms in our existing tube wells in the Dairy.

Industrial safety is of paramount importance at Mother Dairy. A Safety Committee headed by Incharge(Prod.) as Chairman and members drawn from workmen and officers cadre from different sections meet regularly to review and initiate safety measures in all the activities of the Dairy. A number of mock drills are carried out from time to time. Internal safety audits are carried out to locate unsafe conditions, acts and thorough investigation of accidents if any, strict enforcement of safety rules and procedures including work permit system and use of Personal Protective Equipment(PPE). The Dairy is member of National Safety Council and also celebrates safety week every year. The Dairy has ZERO fatal accident since the date of its inception.

The Dairy has been awarded "Safety Initiative" award given by Safety and Quality Forum constituted by the Institution of Engineers, INDIA.

