

(i) Unit Profile

Polyplex Corporation Ltd. Is one of the leading company in the business of manufacturing and marketing of PET Resin, Polyester Film, Metallized film, Yarn grade film and Corona treated film in the thickness range of 9 to 50 Micron and as well as also work in the field of generation of Hydro electric power, Khanna (Punjab).

PCL, have four BOPET film & PET Resin production lines. In India, it's plant in Khatima (Uttaranchal) with a capacity of 15000TPA with the sales turnover around 190 corers and rest of lines in Reyoung (Thailand).

The Khatima unit is commenced in the year 1987 with a capacity of 6000TPA. After that the expansion of plant takes place with the capacity of 9000 TPA and followed by the backward integration of Chips plant of 15000 TPA capacity in the year 1994 to 1996. Then after Metallized plant is commissioned in Nov 2002 with a capacity of 4500 TPA.

PCL, Khatima received QS (Quality-system) 9000 Certificate in the year 1996 & ISO 14000 EMS in year 2002 & also the up gradation of ISO 9001-2000 Quality system done in year 2003. And implement TPM In year 2000 and ERP in year 2002.

(ii) Energy Conservation Commitment, Policy and Organizational Set up

(Please include a photo copy of unit's Energy Conservation Policy, if decided)

Polyplex Corporation Ltd, Chemical Sector considers Energy Saving as a multi disciplinary approach to fulfill the market demand.

The company's energy profile consists of Electricity, Light Diesel Oil, High Speed Diesel Oil, and Super Kerosene oil. Budget provisions are made exclusively for Energy projects. Energy conservation plans, policy and structure are reviewed periodically.

A poster and slogan competition on energy saving and in-house seminar is conducted. The importance of energy conservation is emphasized through various forums and TPM (Total Productive Maintenance) Methodology.

ENERGY MANAGEMENT POLICY

¥ Promote Energy Saving and conservation of resources.

¥ Use of non-conventional sources of energy.

¥ Comply with the Energy Legislation and other regulations.

¥ Promote use of Energy Efficient Alternatives and use of alternate fuels.

¥ Communicate Energy Management Policy to all employees and encourage their involvement through training and participation.

¥ Create awareness among all employees for innovative ideas towards Conservation of energy.

¥ Minimize waste generation and promote disposal, reuse and recycling in an Environment friendly manner.

¥ To make an effort to reduce the cost continuously every year by adopting effective "Energy Management System"

(iv) Energy Conservation Achievements

As per point no. 16 and the photograph are attached in form of the Kaizen sheet excel file (Energy kaizen)

(v) Energy Conservation Plans and Targets

As per point no 18 & 19

(vi) Environment and Safety

Prevention of Pollution and continual improvement in the Environmental Performance commit Polyplex Corporation Ltd. to the protection of the environment. The company has successfully installed Environmental Management System and got the certification of ISO 14001 in the month of 2001 from M/s. DNV India. The commitments of PCL, Khatima shall be fulfilled by:

¥ Conservation of natural resources by optimum utilization of energy and preventing wastage of power, water, fuel and gases.

¥ Minimization and management of waste and reject generation through recovery, recycle and re-use of material.

¥ Reduction of spillage, leakage and emissions and maintenance of the emission and effluent norms and specifications.

¥ Continual improvement in environmental performance by review of environmental objectives and targets.

¥ Enhancement of awareness amongst the employees through effective communication and training.

¥ Encouraging use of safety equipments and persuading employees, vendors and visitors to follow safe work practices.

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Following programs are introduced to attain zero accident and work as safety policy:

The system of nominating members from each Product Unit for safety sub-committee is introduced. These safety

¥ Head of SHE pillar conduct safety meetings with their module managers, cell leaders, once in a 15 days for 2 h

¥ Regular Safety Patrol Rounds to locate unsafe conditions, unsafe Acts, thorough investigation of accidents, cou

¥ In TPM (Total Productive Maintenance) safety pillar is one of the active pillar which has resulted to bring down t

Project no-1	Conversion from conventional FTL to energy saving FTL & HPMV to metal hallide
Back ground of the project :	Total plant lighting load is 60 kw. Mostly FTL & HPMV lights were being used & these consumes high energy.
Observations made:	On trial some saver FTL and Metal hallide,were used and found that lighting is better then before and consuming 25 to 30% less power.
Technical & Financial analysis :	It was a simple replacement of light fixtures and the return of the investment is less than 6 months.
Impact of implementation:	15.54 kwh/Hr. power consumption reduced.
Project no-2	Power factor improvement in MCC by installation of capacitors.
Back ground of the project :	During measurement of power at incomer of MCCs, it is observed that power factor is low as 0.6 where A.C. motors are being used.
Observations made:	After installation of capacitors PF is improved to 0.92and the current is also reduced by about 5%.
Technical & Financial analysis :	The over heating of the pannel is reduced because of less current flow and it help in improving overall PF of the system. The return of the investment is less then one year.
Impact of implementation:	11.4 kwh/Hr. power consumption reduced.
Project no-3	Lighting distribution made in the proper way as per requirment.
Back ground of the project :	The total lighting was audited and found that at some places illumination is low and at some places it more than the requirement because of wrong orientation and connectivity at switch board.
Observations made:	Lighting distribution was planned properly keeping in mind ease in operation & required illumination.
Technical & Financial analysis :	Little modification in the circuit and proper orientation of light fixtures was done anf hence no major investment was done.
Impact of implementation:	5 kwh/Hr. power consumption reduced.
Project no-4	Isolation of Extruder(Hot zone) by making Cabin,from Air conditioning area
Back ground of the project :	The air conditioning air at 25 deg.C was coming in contact with high temp. surfaces of Extruder increasing the air conditioning load, increasing heating load of Extruder.
Observations made:	It is observed that after making partition with a cabin for extruder, there was no effect on the process
Technical & Financial analysis :	A cabin of cement board made during running of the plant. The investment was small.
Impact of implementation:	4 kwh/Hr. power consumption reduced.
Project no-5	Replacement of chilled water circulation pump by high energy efficient & low head pump in chip plant.
Back ground of the project :	After trimming the pump impeller there was no adwers effect on process so decided to install a pump of lower head and high efficiency.
Observations made:	Pump was consuming less power.
Technical & Financial analysis :	Replacement of the pump was simple and pay back was less then 4 months.
Impact of implementation:	5.8 kwh/Hr. power consumption reduced.
Project no-6	Installation of steam OPH in place of eletric OPH for oil heating
Back ground of the project :	Electrical heating is costly by 3 times in comparson with steam heating.
Observations made:	Steam heating is equally good upto a temp. of 150 deg.C, so no problem in performance by electrical or steam heating.

Technical & Financial analysis : Simple steam heating coil in a tank of water, where the oil is flowing in another coil was made. Investment was moderate.
Impact of implementation: 3.0 kwh/Hr. power consumption reduced.

Project no-7 **Installation of 5.5 kw energy efficient motor in place of 11 kw motor.**
Back ground of the project : It was observed that motor is consuming only 5.5 kw and the motor rating is 11 kw, which reduces the motor efficiency.
Observations made: High efficiency motor was installed having rating of 5.5 kw.

Technical & Financial analysis : Technically no major modification require. High efficiency motor is costly by 10%
Impact of implementation: 0.9 kwh/Hr. power consumption reduced.