

Central India Polyesters Limited

Polyesters Manufacturing Plant, Mauda, Dist. Nagpur (Maharashtra)

Unit Profile

CIPL, Central India Polyesters Ltd., is a Polyester Yarn Manufacturing unit having annual capacity of ~ 46,000 MT. Total turnover of plant for FY.2004-05 was Rs. 425 Cr. Plant is designed to operate on dual route (PTA / DMT). *The main product is Polyester POY (Partially oriented yarn).*

The company is having both direct as well as extruder route facility for POY manufacturing, direct route being the major route, contributing to the extent of ~ 90% of the total POY capacity. In all there are 13 direct spinning lines and one extruder spinning line. Apart from POY, there is also facility to produce Polyester chips and there is one FDY (Fully drawn yarn) line. In the extruder machine, *speciality* products like dope dyed yarn (Black and colored dope dyed) & bleach white POY can be prepared.

Company processes following standards –

1. ISO – 9001
2. EMS-14001
3. OHSAS

Energy Management Policy

Under Preparation. Will be published before Energy Conservation Day in Dec-05.

Energy Conservation Commitment Policy and Set-up.

Salient features of energy conservation cell

In CIPL, we have an Energy Conservation Cell, headed by DGM (CEA), supported by BEE qualified Energy Auditors, Energy Managers & other senior members drawn from every required discipline. The team comprises of members from utilities, electrical, mechanical, instrumentation and process. This team identifies the energy saving potential projects in the plant. It is discussed in energy cell for viability, technical analysis and implementation.

Promoting ENCON projects

Also, Energy conservation projects are being taken under Six-Sigma projects for statistical analysis of the system as well to make it more effective. Company has launched a suggestion scheme and cash awards to motivate all quarters of employees to come up with Energy saving ideas. We are also promoting CASHE projects thereby focussing on all critical aspects i.e. Energy (Through ENCON), Health and environment.

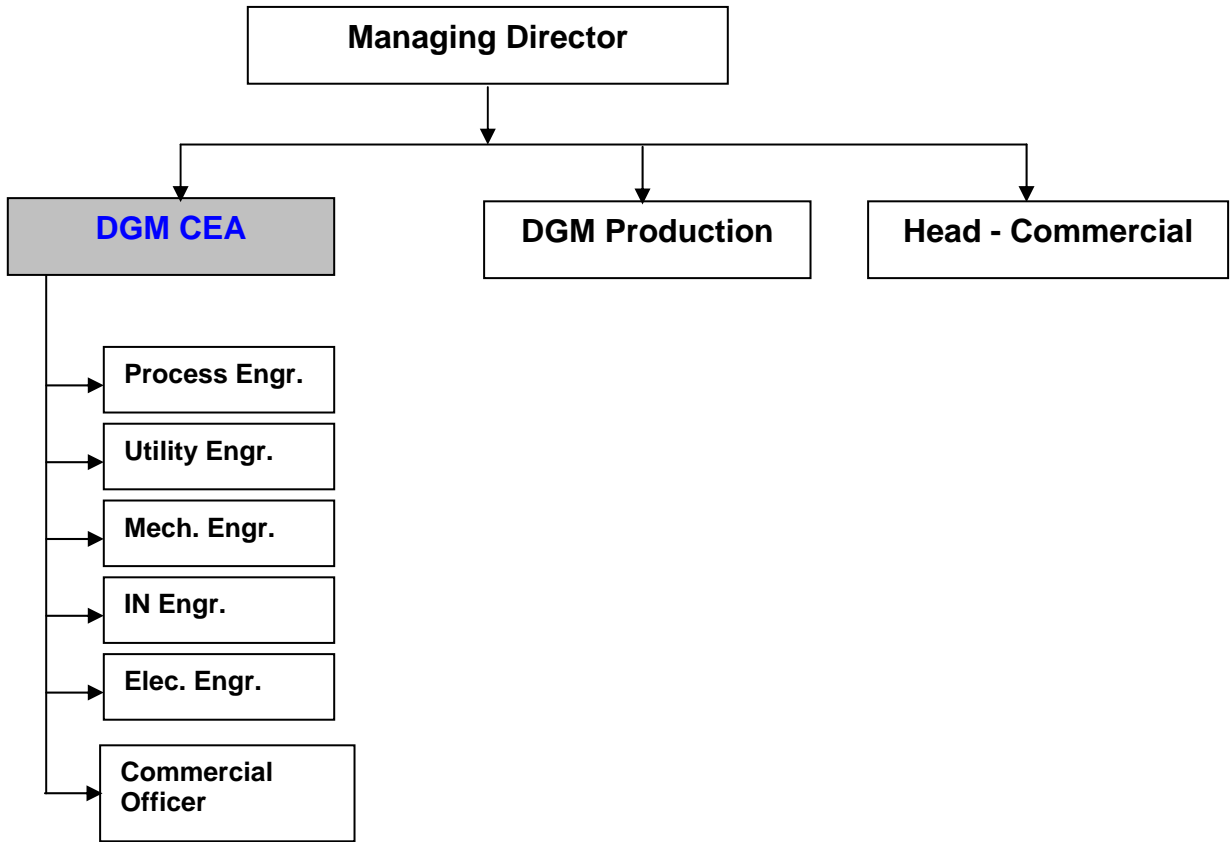
Scheme for Financial assistance for BEE examination.

CIPL has initiated a unique financial scheme under which engineers / eligible candidates are provided with financial assistance to the tune of 60% of examination fees. In last two examinations, company has produced three BEE qualified energy auditors and two energy managers with nine candidates are at various stage of completion of EA/EM qualification.

Energy Conservation program as a mission

To make an ENCON program a successful one, management has decided to extend the above financial scheme to all aspiring eligible candidates. As a result our ~ 10% of the engineers have already been appeared for the said exam.

Energy Conservation Cell Structure



Major Energy Conservation Projects implemented during the Year 04-05

1) Optimizing Cooling Tower Utilization during lean (winter) season.

Prior to modification, two CT's were running continuously through out the year, consuming 155 kWh & 110 kWh. Now during lean season (03 months) all CT related load is shifted to single CT (155 kWh) by pipeline modification, resulting stoppage of another CT (110 kWh).

The details are given below:

Total Investment	: Rs.1.45 Lakhs.
Before modification, Power consumed per hr by both CT's	: 265 kW.
After modification, Power consumed per hr by one CT	: 155 kW.
Annual saving @ Rs. 3.15 per kWh	: Rs. 7.50 Lakhs.
Payback period	: 2.4 Months.



2) Use of efficient compressor for Intermingling Air by replacing Reciprocating Compressors with Centrifugal Compressor.

Reciprocating compressor was generating air (5742 M³/Hr) with Specific power consumption of 0.145 kWh/M³. So running of Reciprocating compressors replaced with Centrifugal Compressor having Specific power consumption of 0.10 kWh/M³

The details are given below:

Total Investment	: Rs. 63.0 Lakhs.
Power consumed per hr by RC's	: 832 kWh.
Power consumed per hr by Centrifugal	: 575 kWh.
Annual saving @ Rs. 3.15 per kWh	: Rs. 27.15 Lakhs.
Payback period	: 27.8 Months.



3) Optimization of Return Air Fan Operations (Total 06 nos.) by stopping one fan.

Total 06 RAF was running continuously in AWT on partial load. One RAF stopped without hampering the product quality for trial of 15 days. Trial was successful and hence stopped one RAF through out the year. Stoppage restricted to 8 months in a year.

The details are given below:

Total Investment : Nil.

Actual difference in power consumption : 15 kWh.

Annual savings @ Rs. 3.15 per kWh : Rs. 2.70 Lakhs.



4) Optimization of Chemical Lab AHU running hrs.

AHU was running continuously through out a year. This AHU was catering demand for Chemical Lab as well as Instrument Department. But the Chemical lab was running for 12 hrs / day. After modification we were able to stopped AHU for 12 hrs.

The details are given below:

Total Investment : Nil.

Actual power consumption per hr : 11 kW.

Electrical Energy @ Rs. 3.15 per kWh : Rs. 1.25 Lakhs.

Thermal Energy @ 1000 Rs / Mkal : Rs. 1.60 Lakhs.

Savings annually (300 days) : Rs 2.85 Lakhs.



5) Optimization of steam heating to FO storage tank.

For taking the advantage of hot summer (04 months), steam heating to FO storage tank was stopped. Purpose of tank heating is smooth flow of FO through pipes

The details are given below:

Total Investment	: Nil.
Steam consumption	: 3.6 tons / day.
Annual saving @ Rs. 355 / Ton	: Rs 2.18 Lakhs.



6) Replacing high Capacity CW pump with optimized flow CW pump.

By replacing high capacity pump with optimized capacity pump we would able to save Electrical Energy. The consumption of electrical energy was more as compare to usage.

The details are given below:

Total Investment	: Rs. 7.60 Lakhs.
Before modification, Power consumed per hr	: 109 kWh.
After modification, Power consumed per hr	: 73.5 kWh.
Annual Savings @ Rs. 3.15 per kWh	: Rs. 9.75 Lakhs.
Payback period	: 9.40 Months.



7) Switching off 1 no lightly loaded transformer.

We are having five nos. 2 MVA distribution transformers and two nos. 1.6 MVA distribution transformer. All these transformers are lightly loaded. Some of the transformers can be switched off & energy against no load losses can be saved

The details are given below:

Total Investment : Nil.

No load losses of 2 MVA X mar per hr : 2.8 kWh

Saving annually (200 days) @ Rs. 3.15 : Rs. 0.42 Lakhs.

