

**Ipca Laboratories Ltd.**  
**Ratlam, M.P.**  
**(API & Formulation Division)**

## **Unit Profile**

Ipca Laboratories Limited, Ratlam is a leading pharmaceutical company of India having manufacturing locations at Ratlam, Indore, Athal and Piparia (Silvasa), Kandla and Aurangabad. It is engaged in the production of Bulk Drugs and Formulations. Ipca is one of the leading manufacturer of API intermediates Atenolol, Chloroquine Phosphate, Frusamide and Pyrantel salt's etc. It features amongst India's top 30 major Pharma sales and top 10 in prescription count and board equity. The Ipca Ratlam facilities has number of approvals to its credit like, USFDA, MCA UK, WHO etc. to name few.

The total annual production in bulk drugs and intermediate is 11041.41 MT and 134764888 units in formulations for the year 2006-2007. The annual sales turn over of the Ratlam unit was Rs.37513 lacs for the same year.



## Energy Consumption

With the implementation of Energy conservation measures, Ipca could still maintain the consumption pattern, even after its expansion of production facility almost at the same level.

The energy cost as percentage of manufacturing cost has shown the decline, for year 2006-07 it was 23.69%. Which depicts the continual reduction in energy consumption due to sustain efforts to conserve it by implementation of various energy measure and ideas to increase efficiency of equipments. The table below gives the comparative figure of energy consumption of last three years.

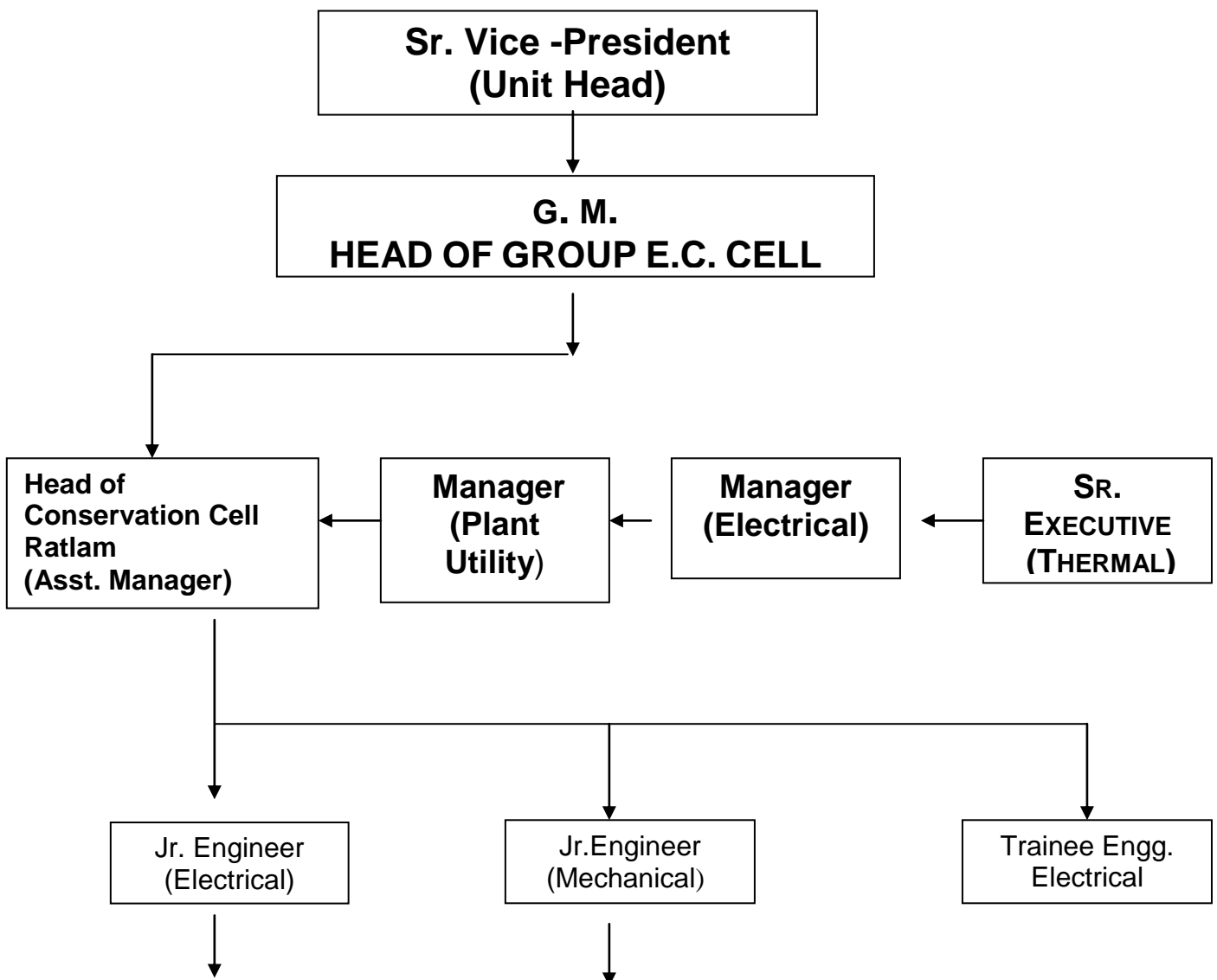
| Power consumption detail               |                           | Unit       | 2005-2006 | 2006-2007 | 2007-2008 |
|--|---------------------------|------------|-----------|-----------|-----------|
| Annual Production                      | Bulk drugs & Intermediate | MT         | 1020.355  | 1104.41   | 1151.212  |
|  | Formulations              | Nos.       | 96893522  | 134761888 | 221764665 |
| Total Energy consumption / annum       | Bulk drugs & Intermediate | Kwh (Lacs) | 173.86    | 175.05    | 199.71    |
|  | Formulations              |            | 43.51     | 61.12     | 66.57     |
| Total Thermal energy consumption       | Bulk drugs & Intermediate | MkCal      | 38313     | 37272     | 38710.36  |
|  | Formulations              |            | 16420     | 18636     | 28031.64  |
| Total Manufacturing cost               |                           | Rs. (Lacs) | 5398.06   | 6221.84   | 7382.01   |
| Total Energy cost                      | Bulk drugs & Intermediate | Rs. (Lacs) | 1000.31   | 1095.75   | 1308.90   |
|  | Formulations              |            | 333.44    | 366.80    | 436.66    |
| Energy cost as % of manufacturing cost |                           |            | 24.70     | 23.69     | 23.64     |

## *Energy Conservation Commitment, Policy and Set up*

Continues improvement, customer delight, total employee improvement are the keywords which all Ipcaite's always work upon. Waste elimination, Energy And Solvent Conservation, Yield Optimization, Process Automation are some of the drivers adopted to drive this journey for continuous improvement, to reach excellence in the area of energy conservation

Ipca has Energy conservational cell headed by D.G.M. assisted by Asst. Manager & supported by 2 engineers. This team identifies various energy saving potential in different working areas. This team makes the proposal after a brain storming session and after evaluating its feasibility, a report is made and submitted to management for approval.

### Energy conservation Team Structure



## Conservation cell

Provide feed water for boiler from incinerator (Heat recovery)  
& got  $20^{\circ}\text{C } \Delta T$



**Saved Coal**

**- 37.2MT / Year**

**Amount saved**

**- Rs.1.92 Lacs/ Year**

## Conservation cell

Replace old cooling tower (260 TR) by new cooling Tower (300 TR)

BEFORE



AFTER



Energy Saved

- 3.17 Lacs kWh/ Year

Amount saved

- Rs. 12.99 Lacs /year

## Conservation cell

### Replacing of Conventional gearboxes to PLANETARY GEARBOX

**BEFORE**



**AFTER**



**Saved Energy**

**- 4.9 Lacs kWh/ Year**

**Amount saved**

**- Rs. 20.00 Lacs/ year**

## Conservation cell

### Saving in lighting system at new canteen



**Saved Energy - 0.39 Lacs kWh/ year**

**Saved Amount - Rs.1.60 Lacs /Year**

## Conservation cell

### Wind operated eco-ventilator

**BEFORE**



**AFTER**



**Saved Energy**

**- 2.97 Lacs kWh / Year**

**Saved Amount**

**- Rs. 12.16 Lacs / Year**

## Conservation cell

### Reduction of Water Consumption by Various Measures



**Total Annual Saving = 9.2 Lacs/ Year**

**Saved amount = Rs. 19.2 Lacs / Year**

## Conservation cell

### Achieved unity power factor



Achieved unity power factor through out the year and got rebate from electricity board

**Saved Amount.**

**- Rs. 39.32 Lacs / Year**

## Conservation cell

### Replacing 160- W ML Lamp With 18-W CFL Lamp



**Saved Energy**                      - 2.90 Lacs kWh/ Year

**Saved Amount**                    - Rs. 11.89 Lacs/ year

## Conservation cell

### Installed VFD in closed loop system



**Saved Energy**

**- 3.2 Lacs kWh/ Year**

**Saved Amount**

**- Rs. 13.12 Lacs/ Year**

## Conservation cell

Provide proximity switch on air curtain



**Saved Energy**                      **-1.05 Lacs KWh /year**

**Saved Amount**                      **- Rs.4.35 Lacs/ year**



## Conservation cell

### Installation VFD at various Centrifuges



**Saved energy**

**- 1.19 lacs kWh/ Year**

**Saved Amount**

**- Rs. 4.88 Lacs/ Year**

## Conservation cell

### Installation of solar heater for New Canteen



**Saved energy** - 8520 kWh / Year

**Saved amount** - Rs. 34932 / Year

## Conservation cell

### PLC based operation at Powder Processing Area



**Saved energy**

**- 0.83 Lacs kWh/ Year**

**Saved amount**

**- Rs. 13 Lacs / Year**

## Conservation cell

### Installation of TIC at Cooling Tower



**Saved energy**

**- 0.47 Lacs kWh/ Year**

**Saved Amount**

**- Rs. 1.92 Lacs /year**

## **Conservation cell**

### **Installation of On Load Tap Changer**



**Saved Energy**

**- 3.45 Lacs kWh /year**

**Saved Amount**

**- Rs.14.14 Lacs/ year**

## **Conservation cell**

### **Reduce batch cycle time to save energy and increase productivity**

**Saved energy - 5940 kWh/ year**

**Saved amount - Rs. 2.49 Lacs**

## **Conservation cell**

### **Study of time analysis in cultivation**

**Saved solvent** - 60 ltr. /Year

**Saved amount** - Rs. 0.45 lacs / Year

## Conservation cell

### Installation of screw chiller plant (132 TR) in place of Reciprocating

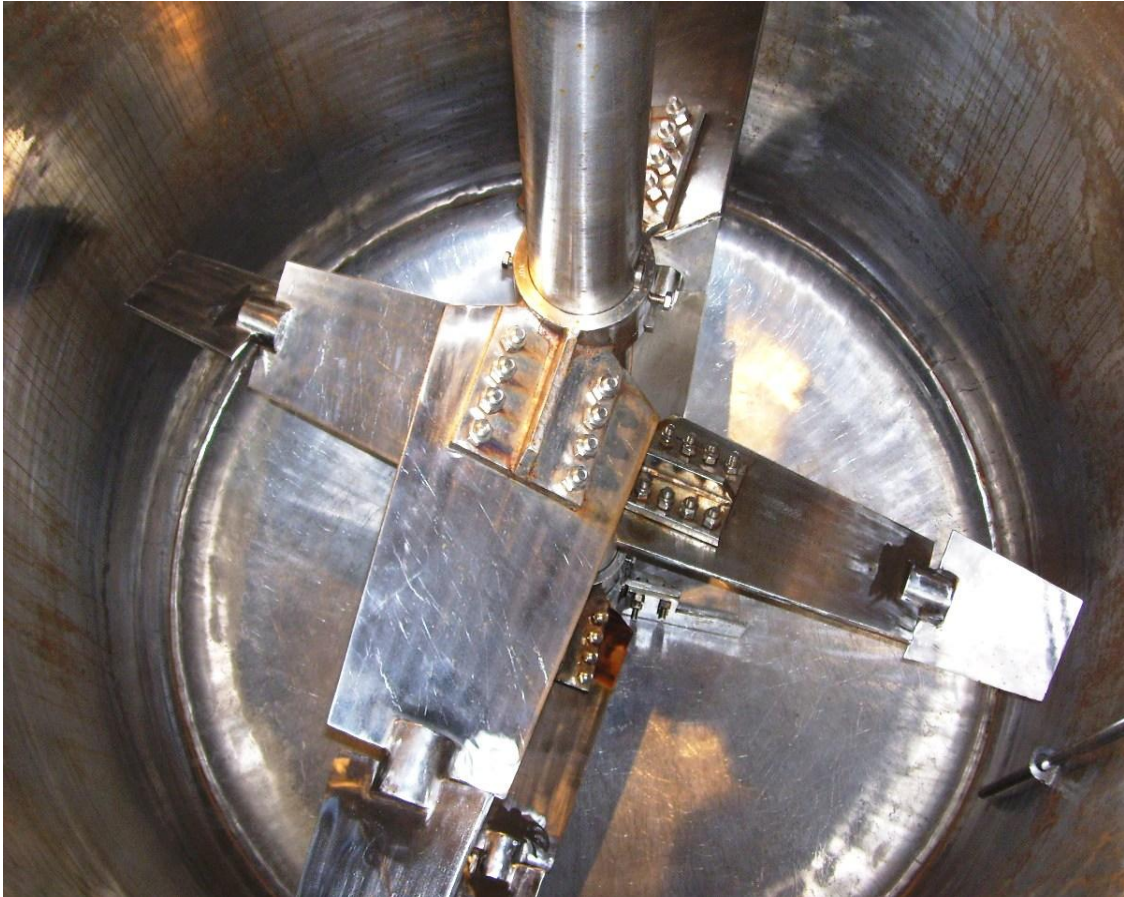


**Saved Energy** - 1.87 Lacs kWh /Year.

**Saved Amount** - RS. 7.66 Lacs/ Year

## Conservation cell

Change the design of anchor in reactors at new plants



**Saved Energy** - 2.30 Lacs kWh/ Year

**Saved Amount** - Rs. 9.43 Lacs / Year

## **Conservation cell**

### **Purchase power from hydro power plant**

We have purchase power from hydro power plant in discount rates & got rebate approx. 1.20 lacs/month

**Saved Amount**                      - 14.4 Lacs/Year

**Investment**                              - Only agreement