

## **Major Energy Conservation Projects implemented in the year 2006**

### **1. Solar Lights (10 nos.) installed across the plant for illumination**

Power Consumption of existing street light : 0.15 KW  
No. of hours usage : 11  
Power consumption per year per street light :  $0.15 \times 11 \text{ Hrs} \times 365 \text{ days}$   
: 602.25 KWH

Total no. of street lights replaced with Solar lights : 10 nos.  
Total KWH saved per year :  $10 \text{ nos.} \times 602.25 \text{ KWH}$   
: 6022.50 KWH



### **2. Reduction of Batch Cycle Time(BCT) for Viscosity Index Improver products**

No. of hours agitator motor used for a batch : 2 Hrs  
Capacity of the motor : 11.25 KW(15 HP)  
By process improving the reduced BCT : 1 Hr of agitator motor  
Total KWH saved per batch : 11.25  
Total batches taken during 2006 : 463  
Total KWH saved during 2006 :  $463 \times 11.25$   
: 5208 KWH

### **3. Reduction of Batch Cycle Time (BCT) for engine oil (Product name: Activ 4T) by 4 Hrs**

Actual Batch cycle time for Activ 4T product : 12 Hrs  
Energy consumption per batch of Activ 4T product :  $12 \times 16.5 \text{ KWH}$   
: 198 KWH

Batch Cycle time reduction to 8 hrs after  
process improvement (energy per batch) : 132 KWH

Total KWH saving by process improvement :  $198 - 132$   
: 66 KWH

No. of batches taken during 2006 : 19  
Total energy (KWH) saving during 2006 :  $19 \times 66$   
: 1254 KWH

**4. Reduction of Batch Cycle Time (BCT) for Hitec 5777 product by 18 Hrs**

Actual Batch cycle time for Hitec 5777 product :36 Hrs  
Energy consumption per batch of Hitec 5777 product : 36 X 11.25 KWH  
: 405 KWH

Batch Cycle time reduction to 18 Hrs after  
process improvement (Energy per batch) : 202.5 KWH

Total KWH saving by process improvement : 405 – 202.5  
: 202.5 KWH

No. of batches taken during 2006 : 8  
Total energy (KWH) saving during 2006 : 8 X 202.5  
: 1620 KWH

**5. Elimination of screw capping machine from 1 L filling line**

Capacity of motor :1.5 KWH (2HP)  
No. of working Hrs per day of this equipment : 15  
Energy consumption per day : 22.5KWH  
Energy consumption saved per year : 22.5 X 240 working days  
: 5400 KWH

**6. Elimination of 2 nos .of 60 hp motor connected with cutter unit of Viscosity Improver blenders by process improvement**

Capacity of the motor : 45 KW( 60HP)  
No. of motors : 2 nos.  
Time in Hrs of use of motor : 1.5 Hrs per batch  
No .of batches taken during 2006 : 463 batches

Total KWH saved in 2006 : 45KW X 2Hrs X 463 batches : 41670 KWH



**7. Reduction of Maximum Demand(MD) by eliminating 2 nos. of High speed 60 HP motor from Viscosity Improver blender by process improvement**

Maximum Demand in Year 2005(Cumulative monthly M.D) : 3847 KVA  
Max.Demand after elimination 2 no. of 60HP motor -2006 : 3487 KVA  
Charge per maximum demand (MD) :Rs.330  
Cost on MD saved :Rs.360 X 330  
: Rs.1.19 Lakh

## 8. Reduction of Changeover time in 5 & 3 Litre filling lines by process improvement

|  |            |
|--|------------|
| Time reduced for every product changeover in filling line  | : 30 min   |
| Average no. of changeovers in a month                      | : 20       |
| Total reduction in changeover time for a month             | : 600 min  |
| Total reduction in changeover time for 4 months(Sep – Dec) | : 40 Hrs   |
| Energy consumption per line per hour                       | : 25 KWH   |
| Energy saved per filling line                              | : 1000 KWH |
| Energy saved for 2 filling lines(5 & 3L line)              | : 2000 KWH |