

Major Energy Conservation Projects Implemented during last two years:

1. Maximum Capacity Utilization:-

At IOLCP, we have made the process running more efficient by minimizing the breakdown, providing stand by infrastructure, reducing the periodic shut down once in a year, as compared to the earlier which was twice in a year.

In all plants, additional strainers have been provided in the pipeline to minimize choking thereby ensuring smooth running of operations.

Moreover all continuous processes are operated by DCS system which makes process running more efficient with minimum handling error & more accurate traceability.



Power Savings = 14230 KWH per Day
= 46.96 Lakhs KWH per Annum

Saving @ 4.4Rs/KWH
= Rs. 206.6 Lakhs

Steam savings = 92.5 TPD
= 30525 MT per Annum

Saving @ 630Rs/MT
= Rs. 192.3 Lakhs

Total Investment = Rs. 208 lakhs

Payback = 6.25 Months

2. Replacement of Warm Reducer gearbox for Agitators by Helical Gearbox with Economix Agitators:-

In our Ibuprofen Division, the conventional Agitators along with warm Reducer Gear box have been replaced by specially designed Economix Agitators along with Helical gearbox. In conventional System, motors used were of 15 HP rating because of heavy Shaft & Blades. Whereas at present Agitators are designed as per the process requirement which resulted in lighter weight Shaft & Blades & hence motor requirement has been reduced to 3-5 HP



Total Agitators Installed = 58 Nos.
Total Cost = Rs 92.8 Lakhs

Power savings = 6310.5 KWH per day
= 21 Lakhs KWH per Annum

Savings @ 4.4Rs/KWH
= Rs. 92.4 Lakhs

Payback = 12 Months

3. PLC Based Operation – Centrifuge & Fluidized Bed Dryer



In the Ibuprofen section, earlier Centrifuge & FBD were operated by simply on/off system which resulted in running of equipment at full frequency every time. In the new system 3 Centrifuge & 2 FBD have been taken on PLC based system, This modification led to automatic running of equipment as per requirement at variable frequency, thereby reducing the power consumption.

Power Savings = 5 Lakhs KWH per Annum
Savings @ 4.4Rs/KWH
= Rs. 22 Lakhs

Total Investment = Rs. 10 Lakhs
Payback = 5.5 Months

4. Installation of Plate Type Heat Exchangers for recovering Heat from Plant:

In total 6 no. Plate Type Heat Exchangers supplied by M/s Alfa Laval (Pvt.) Ltd. have been installed in the plant. These Heat Exchangers have hot process stream on one side and cold hot stream on the other side. The two streams exchange heat with each other thus reducing load on further heating and cooling equipments in the process.



Steam Saved = 24 TPD
= 7920 TPA

Savings @Rs. 630/MT
= Rs. 49.89 Lacs per Annum

Total Investment = Rs. 15 Lakhs

Payback period = 3.6 Months

5. Gravitational & Unidirectional Flow:-

Our Newly erected Ibuprofen Division is completely designed on Gravitational & Unidirectional Flow. This has led to reduction in pumping cost thereby leading to power savings as well as uniformity to the whole plant.



Power Savings = 10 lakhs KWH per Annum

Savings @ 4.4Rs/KWH
= Rs. 44 Lakhs

Total Investment = Rs. 30 lakhs

Payback = 9 Months

6. Conventional Jacket Replacement by Limpet Coil

Conventionally reactors used for the production of Ibuprofen were of jacketed type which have been now replaced with Limpet Coil Reactors.. In jacketed reactor the flow of utility is laminar in nature, whereas in Limpet coil, flow is of turbulent nature. Due to turbulancy, heat transfer takes place in better & more efficient manner thereby decreasing the load on the utility side.



Total No. of Reactors: 18

Total Investment: Rs. 20 Lakhs

Steam savings: 1500 MT per Annum

Savings @Rs. 630/MT

= Rs. 9.45 Lakhs

Payback = 25 months