

## Jubilant Organosys Limited, Nira

### ( i ) Unit Profile:

Jubilant Organosys Limited is one of the largest Custom Research and Manufacturing Services (CRAMS) companies in India and a leading manufacturer of acetyl products, pyridine, pyridine derivatives and fine chemicals. The business of Jubilant Organosys Limited is organized into three major divisions:

- Organic Intermediates, specialty and fine chemicals division
- Performance Chemicals Division
- Plant health and animal nutrition division

The applicant unit is part of the Organic Intermediate division based at Nira near Pune. This unit was acquired from M/s Polychem Ltd in the year 1999 and since then the focus has been on continuous improvement in capacities and consumption norms of raw materials and energy through concerted effort by everyone. The basis details are:

S No	Item	Description
1	Name and address	Jubilant Organosys Limited, Nimbut Village, Nira ( R S ) , Pune- 412102
2	Main Products	Ethyl alcohol and ENA, Glacial acetic acid, Ethyl acetate and byproduct Liquid CO <sub>2</sub>
3	Manpower	214 regular
4	Quality certification	ISO 9001:2000 certified
5	Environment and OHS certification	ISO 14000 and OHSAS 18000 certified
6	Main technology	IBI

### (ii) Energy consumption:

The company has accorded top priority for minimizing energy consumption by putting consistent effort towards optimization of operating and process parameters, modernization/ up gradation of plant/ equipments. The main energy source is in the form of coal and electricity. Towards waste minimization effort, we have our own biogas plant and the biogas generated meets part of energy requirement of the site.

The annual energy bill for the site in form of coal, electricity and biogas during the year 2006-07 was 2599 lacs which is 17.23 % of total manufacturing cost. Out of this approx 47 % is toward electricity bill. We are totally dependent on state power supply for electrical power. There is constant effort to minimize the consumption of power in our manufacturing processes.

The summary of energy consumption details for last three years is given in the table below:

Description	Unit	2004-05	2005-06	2006-07
Electrical energy	Lacs Kwh	266.55	281.76	284.79
Thermal energy	M kcal	196153	207443	229478
Manufacturing cost	Rs lacs	12123.5	15426.4	14683.2
Total energy bill	Rs Lacs	1984.62	2139.64	2529.91
Energy cost as total manufacturing cost	%	16.37	13.87	17.23

### **(iii) Energy conservation commitment Policy and Organizational set up:**

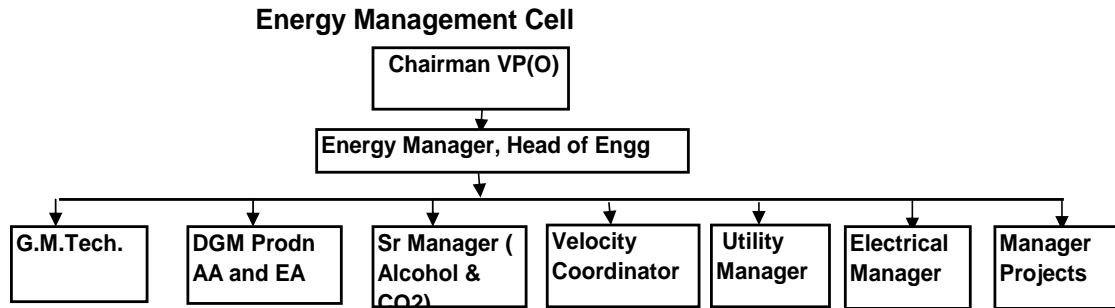
The top management is fully committed towards energy conservation. There is a full fledged energy cell for close monitoring and control of energy conservation parameters. Any losses in energy are monitored on a regular basis and analysed for preventive and corrective actions.

Our Energy conservation policy is given below:

**Our policy is to manufacture and supply products with the lowest specific energy consumption. We target to achieve this through:**

- **Maximizing utilization of non conventional fuel**
- **Continuous bench marking with the global best in the industry.**
- **Effective management of energy resources through good operating and maintenance practices.**
- **Incorporating energy efficient technologies.**
- **Training and developing awareness about energy conservation programme among employees.**

The energy conservation cell constitutes the members from production , utilities and maintenance under the guidance of Unit head. Head of engineering is designates energy manager who himself is certified energy manager. The structure is as below:



### Functions of team

- 1) To conduct monthly meeting to review energy conservation projects.
- 2) To identify energy conservation projects
- 3) To validate identified energy conservation projects for implementation.
- 4) Cost benefit analysis of the projects
- 5) Energy conservation awareness to plant employees.

### Methodology:

Energy conservation and reduction opportunities are identified based on the study of entitlement and inter unit bench marking. Much before the annual planning process the opportunities are identified using following techniques:

- The previous performance against plan.
- Comparison with the entitlement which is theoretical requirement or the best achieved performance.
- Comparison with our own unit at other location in Gajraula.
- Energy audit finding by our own team
- Energy audit finding by third party.

### ( iv ) Energy Conservation Achievement:

- a. **Recovery of flash steam in acetic acid plant.** The flash steam from the steam condensate of AA plant was getting vented continuously at the rate approx 500 kgs/hr. The provision of a scrubber in previous year was able to recover approx 50 % of the flash steam. The system was modified by increasing the line size of the condensate from the scrubber with a provision of vent in its inverted seal. This modification and improvement was done in-house with minor modification in the scrubbing system already available. The soft water was used in this system and the scrubbed hot water was sent back to boiler thereby resulting in saving of Rs 14 lacs.
- b. **Reduction in vent and distribution losses of steam:** The vent and distribution losses from the steam supply system was as high as 6.1 %. The six sigma team worked on this problem and conducted detailed audit. The defective traps were attended and replaced where ever it was not repairable. The monitoring of the vent

losses was started on a daily basis and with a little effort by the consumer and production sections of steam control could be established. This resulted in saving of Rs 15 Lacs/year.

**( v ) Energy conservation plans and targets:**

Energy audit was planned during 07-08 with the help of third part DSCL which was done in the month of Sep 07. The findings are yet to be discussed and plans are to be made for implementation of the priority actions with first week of Nov 07. Meanwhile following are the improvement projects underway:

S No	Project	Expected saving Rs Lacs/annum	Estimated investment Rs Lacs	Remarks
1	Installation of biogas boiler E	314	110	Commissioned in Sep 07
2	Reduction in power consumption RS production	6.4	5	Dec 07
3	Installation of VFD in ID fans of FBC boilers	17	16.2	Dec 07
4	Reduction in steam consumption in ethyl acetate plant from 4.1 to 3.8 MT/MT	25	1	Oct 07
5	Reduction in power consumption acetic acid plant from 45000 to 42750 Kwh/day	32	10	Dec 07
Total		394.4	142.2	

**( vi ) Environment and safety:**

As a responsible corporate entrepreneur, company believes in the principles of safe, healthy and clean environment in all its activities. Safety, health and environment are integral part of industrial activities and development process of Jubilant Organosys Limited. To achieve the aim of zero injuries and zero incidences affecting man, machinery, material or environment, management has adopted safe and standard practices in day to day working.

Our systems are certified for ISO 14000 and OHSAS 18000 and systems are complied to avoid any non conformity. As token of appreciation for our better practices towards safety and environment, our site has been recipient of Green tech safety awards during previous years.