

## **COMPANY PROFILE IN BRIEF**

- **Manufacturer of bulk Cephalosporin range of products (antibiotics), Intermediates and Neutraceuticals with two sophisticated manufacturing facilities in India (one at Alathur near Chennai and the other at Aurangabad ) and formulation units at Irungattukottai Alathur.**
- **Our Alathur facility has a work force of about 1200 and a turnover of **Rs.510 crores****
- **Largest manufacturer of Cephalosporin products in India and one among the top five in the world**
- **100% EOU with ISO 9000, ISO 14000, US-FDA, TGA EDQM, MHRA certifications**

# **NATURE OF MANUFACTURING**

- **Cephalosporin manufacturing is based on low temperature technology upto -70°C and beyond**
- **Approx. 4700 TR equivalent of refrigeration systems at various temperatures (+7,0,-10, -25, -30, -40 & -70deg.C)**
- **Steam generation of 22 Tons/ Hour**
- **Energy cost is approx. 9 % of the turnover**
- **Zero discharge by Evaporation, Ultra Filtration & RO technology**
- **A typical manufacturing process stream is as under:**

**Reactors - Centrifuging - Drying - Powder Processing - Cold Storage –  
Despatch**

# **ENERGY SCENARIO**

## ➤ **Electrical power**

**CPP 10.56 MW ( 3.38 x 2nos. + 3.8 x 1no. FO Gensets )**

**110 KV TNEB supply is in service as a prime source. Due to TNEB realisation the plant demand has come down to 9.5 MVA against 10.5 MVA when operated on CPP due to improvement in p.f**

**Wheeling from gas generated units to a tune of 6 MW from Ramnad is in force**

## ➤ **Steam**

**550 Tons per day**

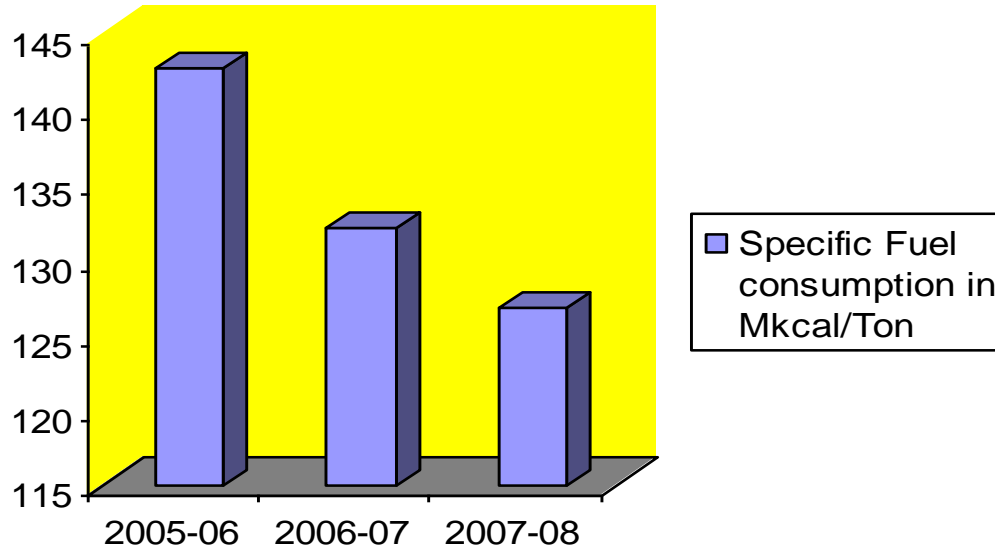
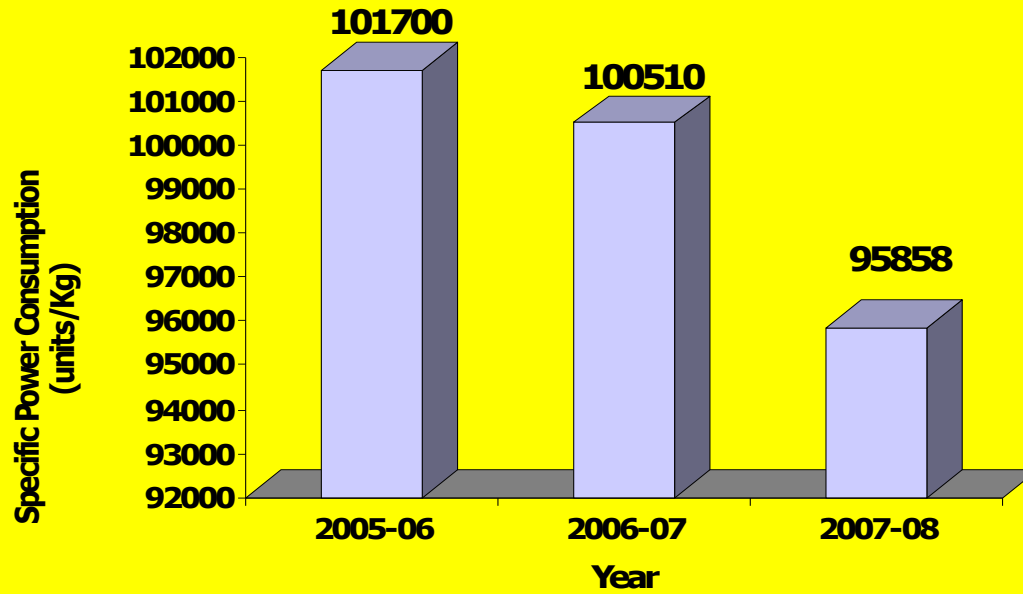
**4 Nos. of FO fired boilers ,3 Nos.of WHRBs**

**Coal boiler of 35 Tones commissioning under progress.**

## ➤ **Fuel bill - approx. Rs.47 crores per annum**

**(50% for Utility, 20% for ETP and 30% for process)**

## Energy Consumption



# **Orchid Energy Policy**

**Our mission is to reduce consumption  
of Natural resources by**

- Improving the process efficiency.
- Implementing alternative technologies.
- Managing utilisation of energy resources efficiently.
- Conducting regular energy audits to identify the areas of improvements.
- Enrich our experience on energy conservation through continuous learning and knowledge sharing.
- Promote awareness among the all the members of Orchid family.

## ***Awards & Recognition for Orchid***

- Orchid was awarded the **Trophy for meritorious performance in exports for the year 1995-96**, by the Ministry of Commerce, Government of India, and the award was given by the then-**President Of India, Shri. Shankar Dayal Sharma**.
- Orchid also received the Industrial Economist's **Business Excellence Award 1996-97** for meritorious performance.
- Orchid has been consecutively awarded the **CEU Export awards** for its export performance in 1994-95, 1995-96 and 1996-97.
- Orchid was selected by The All India Manufacturers Organization (Tamilnadu State Board) for the **Visvesvaraya Industrial Award** for its performance during 1995-96.
- **Ernst and Young** "Entrepreneur of the Year" award for Manufacturing was awarded to Mr. K. Raghavendra Rao, Managing Director, Orchid Chemicals & Pharmaceuticals Ltd., on September 20, 1999.
- On May 8, 2000 **Orchid** was awarded the Trophy for **Excellent Performance in Exports** from the Prime Minister of India, Hon'ble Atal Behari Vajpayee at an impressive function held at Vigyan Bhavan, New Delhi.
- Orchid Chemicals & Pharmaceuticals was adjudged as the Best Corporate Citizen for the year 2000 and was awarded the prestigious, "**Mother Teresa Award**", by the Loyola Institute of Business Administration on April 7, 2001.
- Orchid was awarded thrice as the excellent energy efficient unit by CII-national energy summit..
- Orchid was recently awarded the **MMA Award for Managerial Excellence in the Manufacturing sector** by the Hon'ble Former Governor of Tamilnadu Shri. P S Ramamohan Rao.

Mother Theresa award



Excellent energy efficient Unit award for 2005-06 from CII



(v) Energy Conservation Plans and Targets

Target

Year	Electrical	Thermal	Reduction over the year 2007-08	
	Units/MT	Mill Kcals/MT	Electrical%	Thermal%
2007-08 (Base)	95858	126.7	-	-
2008 - 09	94700	125	1.2	1.3
2009 -10	93700	123.5	1.1	1.2

## **Management Commitment towards Environment**

- a). Orchid, being a 'Zero Discharge Unit', adds value to water by 100% recycling Saving 1,50,000 KL of water/ annum by recovering water from effluent using UF and RO**
- b).By using air cooled heat transfer equipment, evaporation loss of 75,000 KL/year is avoided.**
- c).A major part of CT make up water is obtained from ETP RO & UF plant and balance Defrost water, container wash water, AHU humid water, water ring vacuum pump expel water, hot water tank overflows, reactor jacket draining water is recycled directly.**
- d)Providing orifices before the water usage points for water reduction and monitoring purpose.**

**All the above resulted in the reduction of specific water consumption by 40lit/kg of product**

# ENVIRONMENTAL IMPROVEMENTS

- **Installed a 5 effect evaporator plant to separate the salt from the effluent stream to reduce the TDS load on the down stream processes.**
- **We have put up a large number of lean stream recovery facilities to recover the low boiling solvents from the ML with less than 5% of solvents. This includes MDC, Acetone, and Methanol etc.**
- **Solid waste are used for bio decomposing and used for the cultivation of *Jetropha*- used for Bio diesel**
- **Orchid Alathur spends around 35 % of the total energy for treating effluent (Recovering Water from the effluent)**

## Utilisation of Waste

### Composting of Bio-Sludge

- Bio-Sludge generation- -360 tons per annum
- Equivalent Fuel Savings = 349 KL
- Savings about = Rs.45.0Lacs per annum

### Composting of Effluent Treatment Plant Bio-Sludge ( Dynamic Pile Process)



**Alternative to Incineration**



# Renewable energy sources-Wind turbines



Installed Windmill capacity-6 nos of 425 KW

Annual generated units in 2007-08- 16 lakhs

Revenue on account of wind generation- 43.2 Lakhs

# Renewable Energy and Environmental projects

## Solar Evaporation



**The rate of evaporation = 3 mm per day**

**Equivalent Fuel Savings = 75 KL per annum**

**Savings about = Rs.10Lacs per annum**

# RENEWABLE ENERGY SOURCES

Solar Water heaters installed at Canteen facility

Capacity- 2000 litres per day

Investment- Rs.10 Lakhs

Annual saving -6.7 lakhs



# Organization efforts towards safety

- Orchid has engaged world class safety consultant M/S.Dupont to evaluate the present and proposed safety requirement by means of training, observations, implementation of audit findings.
- Based on the safety journey orchid adopted the following safety principles.
  - 1.Safety is a core organization value.
  2. Management is responsible for preventive injuries.
  - 3.All Injuries can be prevented
  - 4.All incidents must be reported and acted upon.
  5. Working safely is a condition of employment and contract.
  - 6.Training employees in safety is essential.
  - 7.Safety makes good business.

## Efforts provided by plant personnel towards safety

**All orchidians are trained in the following programs and effectively followed by them.**

- 1.Safety Observation Audit(SOA)
- 2.Incident investigation
3. Process hazard analysis
- 4.Job safety analysis
- 5.Job cycle check
- 6.Mechanical integrity
- 7.Contractor Field Audit
- 8.High standards
- 9.Rules and procedures

Targets are fixed for every levels, and is taken for performance appraisal.

# Top Management commitment towards safety

- All the activities/observations/implementation status addressed by respective site safety committees will be reviewed by central safety committee headed by the Managing Director and a team of top management personnel on monthly basis.
- Action Plan Towards successful implementation/ Resources allocation are being made during such sessions which will be communicated to the individuals back through the site safety committee.
- The management has invested around 3 crores towards implementation of safety measures-during 2007~08

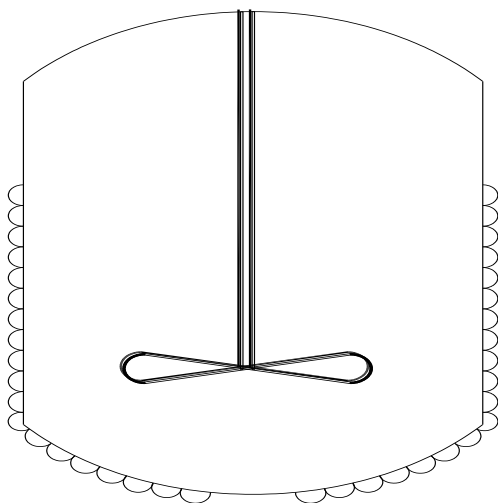


# Brief write up of Encon Projects with Photograph





**Optimization of Specific solvent usage quantity in Bulk drug intermediate production.**



Optimization of solvent usage quantity in API manufacturing (50% Reduction in solvent used)

**Investment:** Nil

**Savings:** 72 Lacs/year

**CTW used for condensing MDC ( Low boiling solvent) instead of “+10” water. There is a reduction in Specific Power consumption/TR from 1.15 to 1.0 using semi welded PHE**

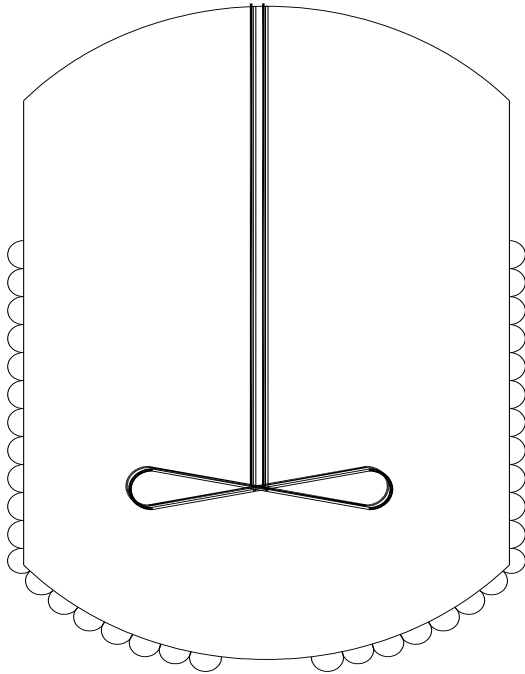


Low Boiling solvent MDC was condensed using CTW instead of “+10” water.  
100 TR load reduction.

**Investment:** 10 Lacs.

**Savings :** 30 Lacs

**Usage of “-70 brine from compressor ( SPC : 6.6 Kw/TR), instead of Liq. Nitrogen ( SPC : 45.6 Kw/TR)**



Using “-70 brine instead of Liquid Nitrogen

**Investment: 100 Lacs.**

**Savings: 300 lacs**

## Usage of Solar water heaters instead of Electrical heaters for Hot water generation in canteen



Solar water heaters instead of electrical heaters in Canteen

**Investment** : 10 lacs

**Savings** : 6.6 Lacs/yera