



## Tuticorin Alkali Chemicals And Fertilisers Ltd

### Unit Profile :

Tuticorin Alkali Chemicals and Fertilisers Ltd- TAC, is a Joint Sector company promoted by Tamil Nadu Industrial Development Corporation and SPIC, primarily for the manufacture of 66,000 Te per annum each of Soda Ash Chemical and Ammonium Chloride Fertiliser at a project cost of Rs.53.20 crores. Commercial production started on 01.11.1982.

The capacity of the plant was increased to produce 1,15,000 Te of Soda Ash and 1,05,000 Te of Ammonium Chloride per annum by Substantial expansion scheme in 1999. Recently TIDCO & SPIC have signed an MoU on 10.05.1991. As per this MoU, the Management of the company has been taken over by SPIC from TIDCO. Presently, the Company is managed by SPIC.

### ENERGY POLICY:

We are committed to energy conservation in all our activities by technology upgradation, system modification and productivity improvement.

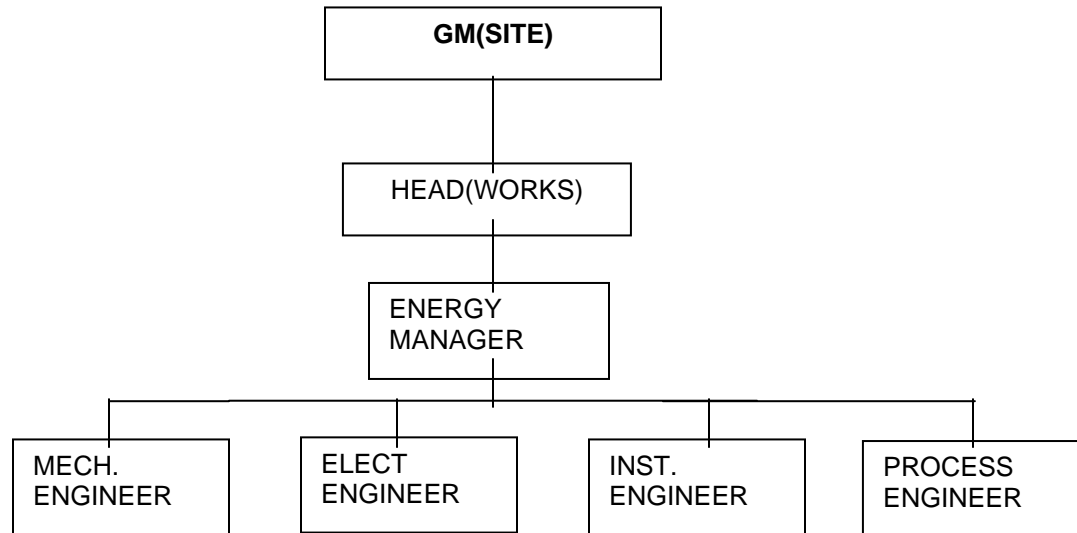
### Energy Consumption:

Specific Energy Consumption (SEC) Reduction during the period 2003-2005									
Year	Product	*kWh/Tonne	% reduction over 2002-2003	MKCals / Tonne			% Reduction over 2003-2004		
				Coal for LSA	Coal for TG ACL	Fuel oil/Char coal for FGACL	Coal for LSA	Coal for TG ACL	Fuel oil for FG ACL
2003-2004	Soda Ash and ACL	465.913	-	1.495	7.009	0.092/-	-	-	-
2004-2005		484.982	-	1.812	7.397	0.046/0.079	-	-	-

Remarks (if any) : The increase in specific consumption is due to energy consumption for new product diversification activities and trials in increasing the production.

### Energy Cell Structure:

**GM**



**Energy Conservation:**

<b>Implementation of energy conservation measures &amp; investments</b>					
No. of measures implemented, investment made & savings achieved					
Year	No. of measures implemented (S.No.16)	Investment made (S.No.16) (Rs. lakhs.)	Savings achieved (S.No.16) (Rs. lakhs/yr.)	Energy Cost S.No.9.3(i) (Rs. lakhs/yr.)	% savings of Energy cost (iii/iv x 100)
	(i)	(ii)	(iii)	(iv)	
2002-2003	3	1.08	20.78	2599.563	0.80
2004-2004	6	3.98	10.86	2814.710	0.39
2004-2005	4	42.70	95.02	3223.054	2.95
Remarks (if any) – Nil					

Specific Energy Consumption Target as achieved during 2004-05						
Planned target for 2004-05 (a)		Actual achieved in 2004-05 (b)		% Reduction(+) or Increase(-) $\frac{(a-b) \times 100}{a}$		Money saved during 2004-05
KWh/tonne	Million KCal/tonne	KWh/tonne	Million KCal/tonne	Electrical	Thermal	Rs. Lacs
440	1.126	484.982	1.203	(-)10.22%	(-)6.84%	-

**ENERGY CONSERVATION ACHIEVED FOR THE YEAR 2004-05:**

S.No.	Project Description	ACHIEVEMENT OF ENERGY SAVINGS				Investment incurred on the project (Rs.)
		Source	Per Day (units)	Per year (units)	Cost/Year (Rs.)	
01	Installation of Gasifier to substitute for fuel oil to produce hot air	Fuel oil (KL)		252	33,00,000	35,00,000
02	Heat recovery system for preheating boiler feed water	Fuel coal (MT)		710	32,70,000	5,00,000
03	Usage of imported coal for boiler	Fuel coal (MT)	10	1250	28,00,000	-
04	Installation of VFDs for pumps	Power	116	38,280	1,32,000	2,70,000
	TOTAL				95,02,000	42,70,000

**I) Brief write up of Achievement made:**

**1.Installation of Gasifier:**

We were using Furnace oil as fuel to generate hot air for drying our product Ammonium Chloride. As an alternate cost effective system of Gasifier using Charcoal as fuel was installed and commissioned in the last week of Feb 2005. The producer gas formed from the Gasifier is used as a fuel in the furnace.

**Amount Invested : Rs.35 Lakhs**

**Amount saved from  
Mar'2005 to Sep' 2005 : Rs.33 Lakhs**



## **2.Heat Recovery system for preheating Boiler Feed Water:**

The hot gas produced from Calciner was cooled with Cooling Water in a Cooler before going into the next stage of the process. This excess heat was utilized to preheat the Boiler Feed water with suitable modifications in the Cooler compartments resulting in the savings of 15 million kcal/day. The system was commissioned on 16.11.2004..

**Amount Invested : Rs. 5.00 Lakhs**

**Amount saved up to  
Sep' 2005 : Rs.32.70 Lakhs**



## **3.Use of Imported Coal for Boiler:**

We were using indigenous coal for our Boiler. We tried with Imported coal having a high calorific value of 6100 kcal/kg which is higher by 1100kcal/kg for our Boiler and resulted in a saving of 10 Tone per day.

**Amount saved for the period from 29.05.2005 to till date : Rs.28 Lakhs.**

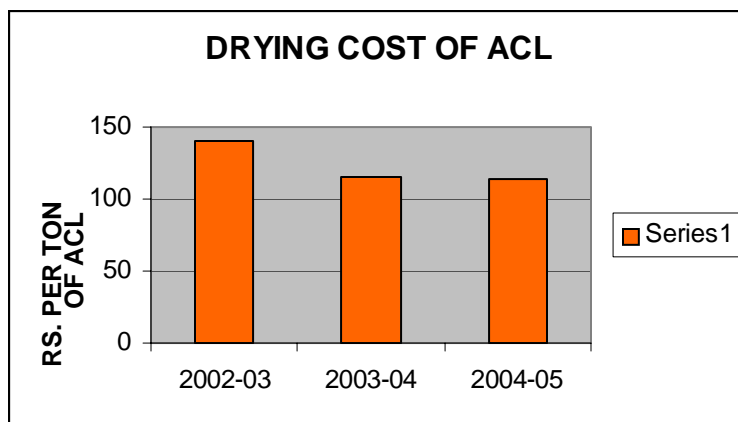
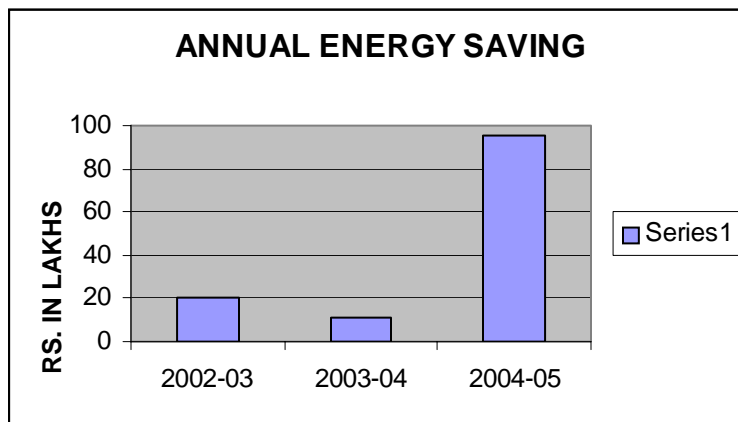
#### **4. Installation of VFD :**

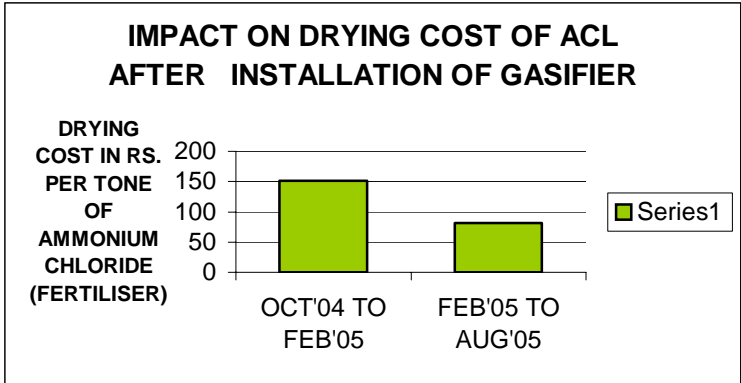
The process study was carried out and identified the service for introducing VFD at two locations and improves the process condition and resulting in energy consumption (116 units/day saved).

**Amount invested for 2 nos. of VFD : Rs. 2.70 Lakhs**

**Amount saved per year : Rs. 1.32 Lakhs**

#### **II) GRAPHICAL REPRESENTATION OF ENERGY SAVING ACHIEVEMENT:**





**ENERGY CONSERVATION PLANS AND TARGETS:**

Energy conservation measures (planned)	Anticipated savings in Energy value / Increase of Production Rs. in lakhs	Approx. investment (Rs. in lakhs)	Project commencement & completion year
Installation of 2nos. of VFD for Process application	Kwh	1.32	2.70
	116 units/day		
Recovery of CO <sub>2</sub> from flue Gas to minimize the raw material cost and to increase Production rate.	Increase of Production (Ton)	220.44	400.00
	27,300 (Amm. chloride + Soda Ash)		
Recovery of Sodium Bicarbonate from filtrate.	Increase of Production (Ton)	256.80	25.00
	8.00		