

RASHTRIYA CHEMICALS AND FERTILISERS LIMITED THAL UNIT

(I) Unit Profile :

Thal Unit of Rashtriya Chemicals & Fertilizers Ltd. (RCF) located about 100 KM south of Mumbai on the western coast of Raigad district, is a giant fertilizer unit.

The Fertilizer complex at Thal is manufacturing prilled Urea having the reassessed capacity of 17.06 Lakhs MT per year. The annual capacity of ammonia plant is 9.90 Lakhs MT.

The capacity utilization of more than 100% has been achieved for the last five years in row.

A wide range of diversified valued chemical products like Dimethyl Formamide (2500 T/year), Methylamine (11,400T/year), Dimethyl Acetamide (5000 T/Year) and a Formic acid plant (10000 T/year capacity) are manufactured at Thal.

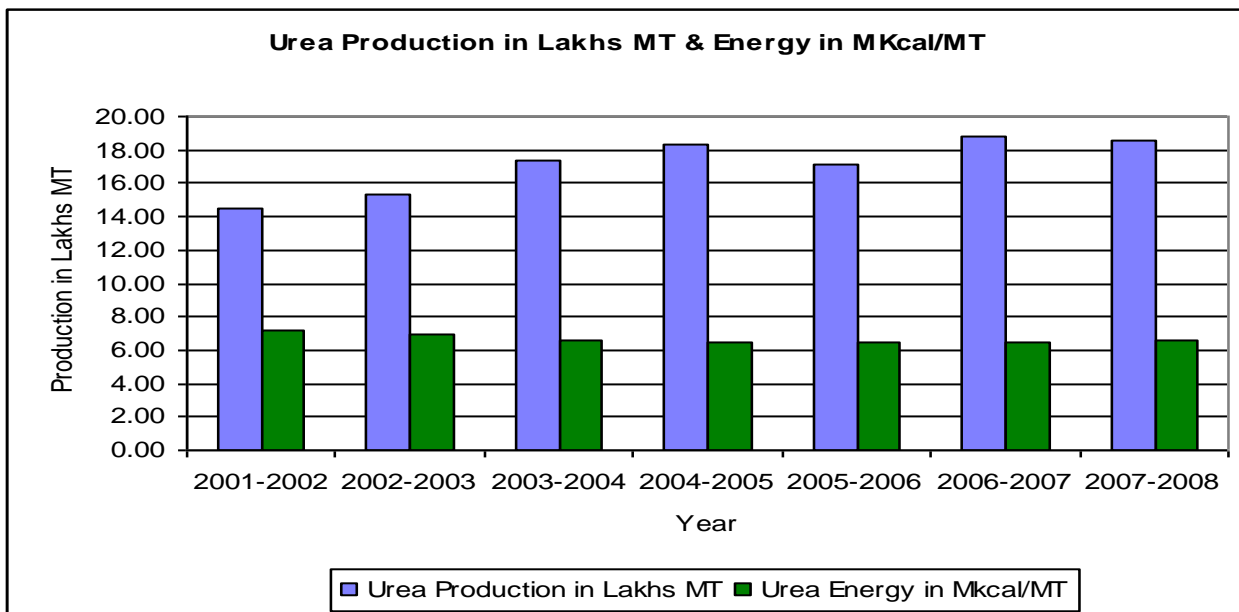
Argon plant at Thal is under commissioning which is wealth from waste. Input to the plant is tail gases from Ammonia plant.

The unit has received ISO14001 certification in June 2001. We are certified with OHSAS 18001 (Occupational Health & Safety Assessment Series) from September 04. We have received ISO-9001 for whole unit.

Recently we have integrated QMS,EMS & OHSAS systems and Integrated management system is certified with effect from 1st August 2008.

(II) Energy Consumption :

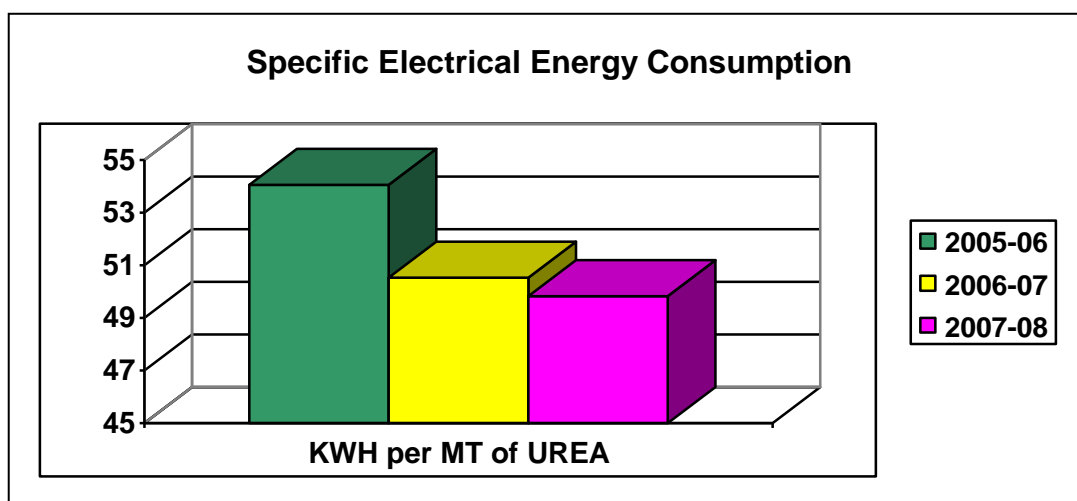
The performance record of Ammonia and Urea can be judged by the sustained level of energy consumption with respect to previous years best energy consumption together with efficiencies. Reliability and length of continuous runs illustrates RCF's firm commitment to operational excellence since inception. This has been accomplished without compromising safety or environmental standards.



Sustained operations of all the plants i.e process and utilities with minimum downtime resulted into :

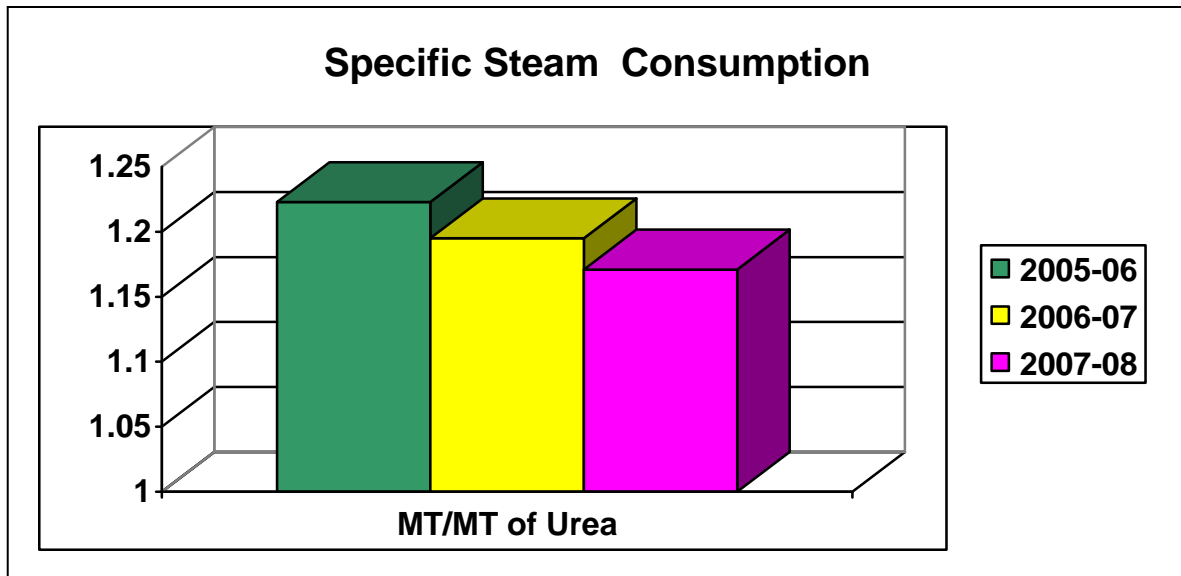
1. Electrical Energy Consumption reduction in Urea Plant

Year	KWH/MT of Urea
2005-2006	54.06
2006-2007	50.53
2007-2008	49.83



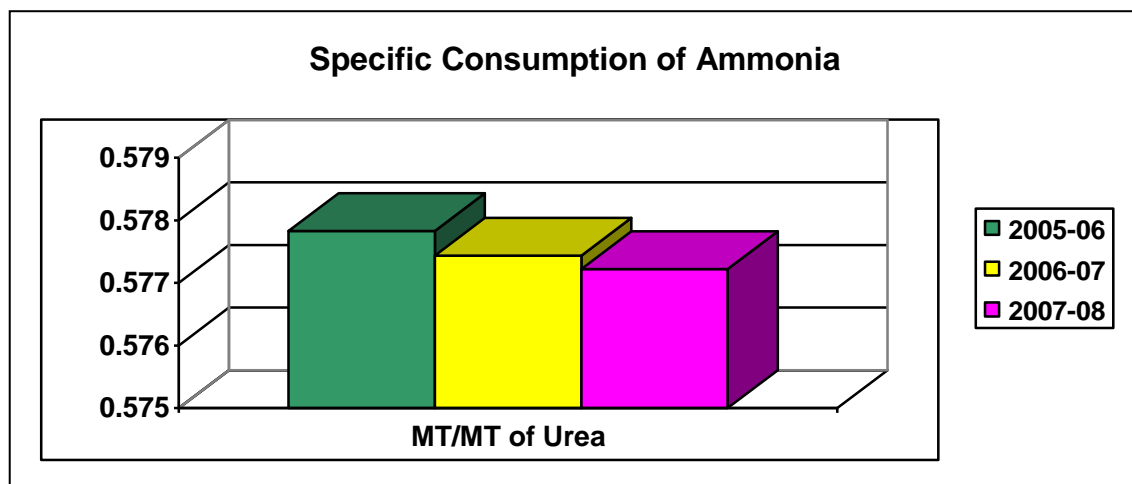
2. Steam Consumption reduction in Urea Plant

Year	MTof steam/MT of Urea
2005-2006	1.223
2006-2007	1.195
2007-2008	1.171

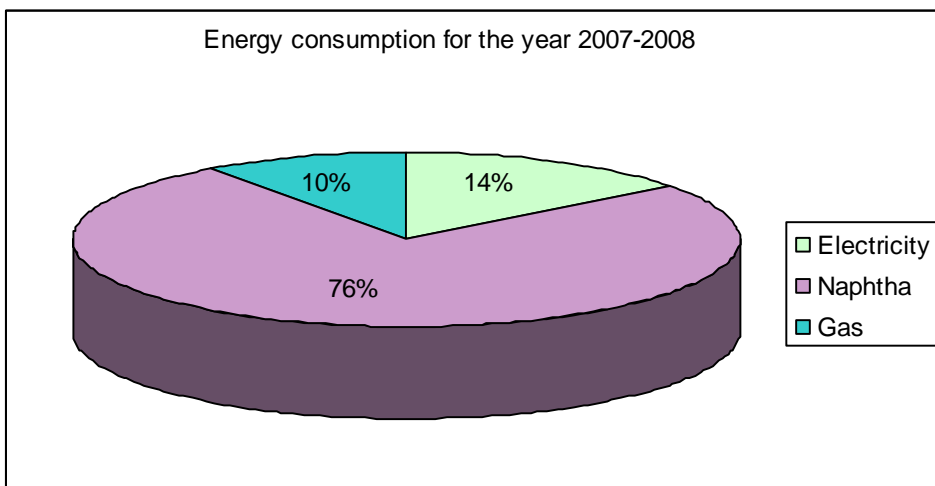
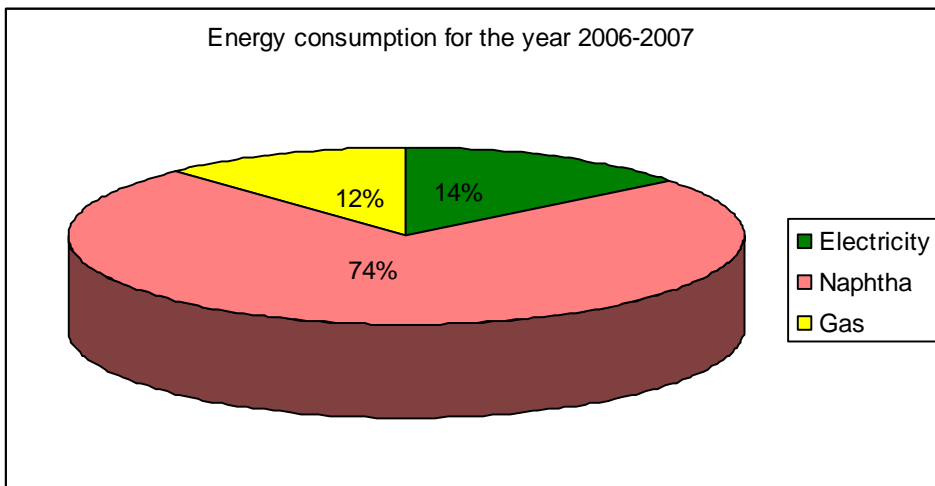
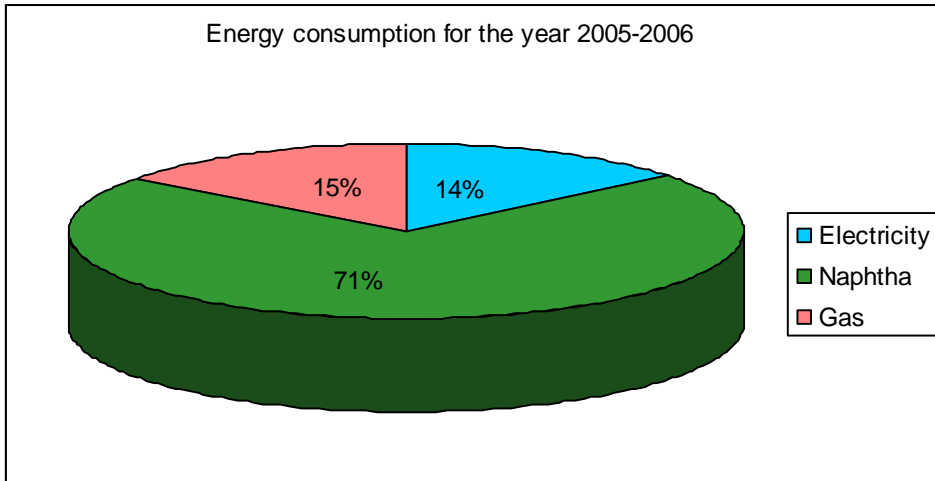


3. Reduction in Ammonia Specific consumption

Year	MTof Ammonia/MT of Urea
2005-2006	0.5778
2006-2007	0.5774
2007-2008	0.5772



The chart given below clearly depicts the Costwise consumption of Gas , Naphtha and Power. Due to depleting gas availability naphtha consumption has increased. Skyrocketing naphtha prices contribute most to the manufacturing cost. RCF,Thal plants are 24 years old plants. But our production and energy consumption are comparable to national and international standards.



Our contribution in field of Energy, Safety and Environment has won us many prestigious awards like :

YEAR 2008

1. RCF,Thal unit was awarded Good Green Governance award from Srishti Foundation for year 2007 for Environment Protection & Pollution Control. It was received in May, 2008.
2. RCF, Thal was awarded special Award for “Contribution in Safety Awareness activity by RCF” during the period of 2005-08. This award is given by Directorate of Industrial Safety and Health and MARG, Raigad (Mutual Aid Response Group), Govt. of Maharashtra . The award was received on 01.08.2008.
3. Shri S.J Lele, Chief Engineer, Fire & Safety Department was awarded special award for his contribution towards “Technical Guidance in Safety related matters” by Directorate of Industrial Safety and Health and MARG, Raigad (Mutual Aid Response Group), Govt. of Maharashtra for the period of 2005-08. The award was received on 01.08.2008.

Some of the prestigious award won in past:

1. 2nd prize of Energy Conservation award for the year 2006 from MEDA (Maharashtra Energy Development Agency). We have received this award for third time in a row.
2. MoU Excellence Award for the year 2005-06 declared on 08.03.07.
3. MoU Excellence Certificate for the year 2004-05 declared on 08.03.07.
4. First Prize for “State Level Excellence in Energy Conservation & Management” for the year 2005 from MEDA, Govt. of Maharashtra.
5. Second prize for ‘National Energy conservation award 2005’ for fertiliser sector.
6. FAI runner up award for the year 2004-05 for the ‘Best overall performance of an operating unit for nitrogen (ammonia and urea) plant.’
7. Award for “Best Production Performance of an Fertilizer Unit in the Country” for the year 2003-2004 administered by Fertilizer Association of India.
8. First prize of “National Energy Conservation Award-2004” was awarded by Ministry of Power, Govt. of India.
9. First prize of “Energy Conservation Award-2004” at state level was awarded by Govt. of Maharashtra.

(III) Energy Conservation Commitment, Policy & Organizational Set up.

Inspite of feedstock crisis, plants at Thal have performed well largely due to the proactive and painstaking efforts taken in the field of energy conservation and capacity enhancement through technical foresight. The

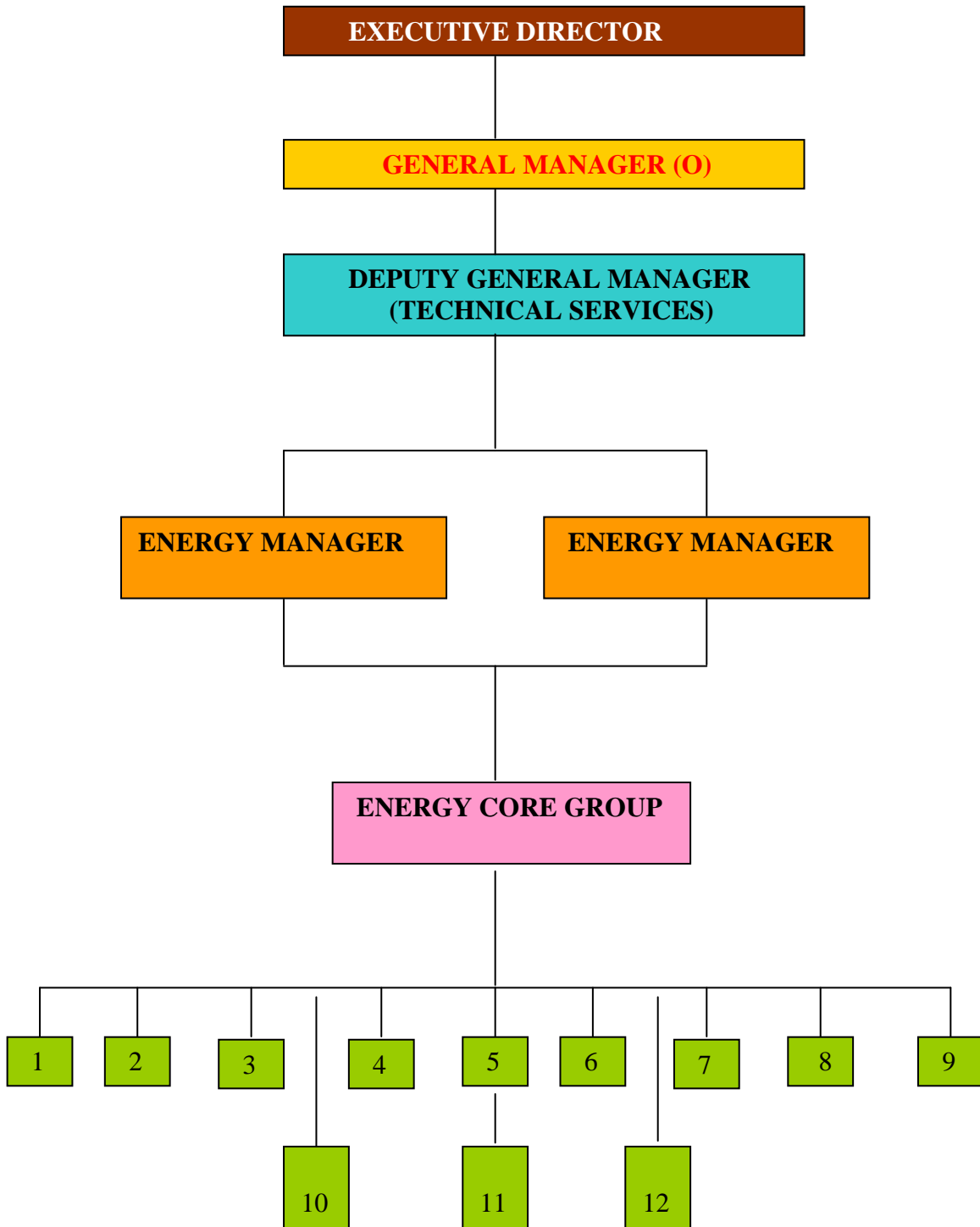
energy level maintained by 24 years old RCF, Thal plants itself shows our commitment & outlook towards Energy conservation.

Our organization has an exclusive **Energy Conservation Cell**. The cell is headed by Executive Director of the Unit. As per the EC Act-2001 our unit has two designated 'Energy **Managers**'. These two Energy Managers are reporting to Executive Director. There are Ten certified **Energy Auditors** and **3** Certified **Energy Managers**.

Energy cell conducts a monthly review meeting. In this meeting core group members present the various energy saving potential in their working areas. After brain- storming sessions and cost benefit analysis, the schemes are finalised for implementation after proper approval. The projects already undertaken are reviewed in the monthly meeting.

To create awarness among employees, Energy conservation week is celebrated every year from 14th December to 21st December. All the plants including chemical group & utilities are invited to present their achievements towards energy conservation alongwith the future plan and targets. The plant making best efforts and realising the set targets is awarded. Also slogan competition, poster competition & Quiz competition is held which is open to all. A special programme is arranged with any external faculty from renowned field to share the views and ideas on energy conservation.

ENERGY CONSERVATION CELL STRUCTURE



(IV) ENERGY CONSERVATION SCHEMES

Please see Annexure “B”.

(V) Energy Conservation Plans and Targets

Ammonia Plant

1.0. End to End survey of Ammonia plant has been carried out. Revamp options are being frozen. Rotor for SGC order placed with M/s Siemens.

2.0 Zirconium coating of refractory in primary reformer furnace of ammonia line II& Super heater.

3.0 Installation of peek wear rings in Ammonia plant.

Urea Plant

4.0 Installation of peek wear rings in 21 P-8 A and 31P-27 A .

5.0 Transferring LW purging load from P-13 to P-10 pump and optimising P-13 VFD frequency.

6.0 Using of wastewater solution for scrubbing of inert vapors emerging from vacuum section inert vent.

7.0 Increasing of V-2 (Steam Condensate Tank) Pressure to 2 Kg/cm² & utilize the flash steam in Distillation tower in all three units.

8.0 Capacitor Bank for urea plant of 400 KVAR for improving internal power factor.

9.0 Steam trap for E-16 (Reboiler in waste water section) will be replaced by condensate pot in all three units

10.0 VFD for P-14 pumps in all three units.

STEAM GENERATION PLANT

11.0 Installation of peek wear rings .

12.0 Installation of VFD for 3414 A/B Kurul pump.

13.0 Removal of electrostatic precipitator (ESP) to reduce pressure drop in duct thereby reducing power consumption of ID fans. Also installation of VFD on I.D fan is being considered.

HEAVY WATER PLANT

14.0 Installation of VFD for 31 P-41 and 14P5 A & B pump.

Others

15.0 Replaceemnt of reciprocating compressor with screw compressor for one unit in Adm building, Steam generation and Ammonia Control Room.

16.0 4 No. geared motors to be installed in product handling Plant.

17.0 RCF is planning to venture into wind energy sector.

(VI) ENVIRONMENT & SAFETY

ENVIRONMENT MANAGEMENT AT RCF THAL

The environment management of RCF Thal does not stop at merely by meeting all the stipulated requirements laid down by the statutory authorities. Our aim is to better our own performance & excel in this field. The environment management system has been re-certified for ISO 14001. Internal audits and management reviews are undertaken regularly to identify the areas of improvement. Measure taken to conserve water has yielded fruitful results.



For Environmental Management our Thal Unit has received following prestigious award last year:

RCF,Thal unit was awarded Good Green Governance award from Srishti Foundation for year 2007 for Environment Protection & Pollution Control. It was received in May,2008.

SAFETY

RCF, Thal has achieved a lowest accident frequency rate and longest accident free period. We had ZERO No. of reportable accidents in the year 2003-2004, 2004-2005 and one reportable accident 2005-06. We had received:

1. Greentech foundation '**Safety Gold Award**' for the year 2005.
2. FAI award for '**Excellence in Safety**' for 2004-05.
3. First prize for '**Industrial safety-2005**' to Heavy Water Plant instituted by Atomic Energy Regulatory Board.
4. '**National Safety Award**' for 2005 from Ministry of Labour.
5. Award from National safety council for Maharashtra chapter for '**Lowest accident frequency rate for the year 2005**'.
6. Award from National Safety Council for '**Longest accident free period for the year 2005**'.

We are certified with OHSAS_18001 (Occupational Health & Safety Assessment Series) from September 04.

WELFARE, SPORTS & EMPLOYMENT TO WEAKER SECTIONS

The SC/ST employees are provided Training in order to upkeep their skills and knowledge. Our company follows the guideline in respect of reservation in recruitment and promotion of SC/ST, OBC, Ex-servicemen and physically handicapped persons. Welfare facilities, particularly to SC/ST employees have also been taken care of. The SC/ST students in nearby vicinity were provided with Annual scholarships.

RCF,Thal undertakes several welfare schemes like education, medical, transport, housing etc. Our company is prominent patron and sponsors for various sports.

Energy conservation campaign at Domestic front, National Energy conservation week celebration and Essay competition for school children are the awareness programs conducted periodically at Thal.