



GAIL (India) Limited, Vijaipur

Profile: GAIL (India) Ltd (Erstwhile Gas Authority of India Ltd), India's principal gas transmission and marketing company, was set up by the Government of India in August 1984 to create gas sector infrastructure for sustained development of gas market in the country. Today GAIL has expanded into Gas Processing, Petrochemicals, Liquefied Petroleum Gas Transmission and Telecommunications. The company has also extended its presence in Power, Liquefied Natural Gas re-gasification, City Gas Distribution and Exploration & Production through equity and joint ventures participations. GAIL(India)Ltd is having it's one of the gas processing complex at Vijaipur, Distt. - Guna, MP.

The Gas Processing complex at Vijaipur is having 15MMSCMD(Million Standard Cubic Meter /day) Processing capacity.& have Two Trains for Processing the Natural gas. The total plant capacity is 6 Lakh MT of liquid hydro- carbon. The production capacity of different products is given bellow.

Sr.no	Products	Capacity(MT/Annum)
1	LPG	406000
2	Propane	130000
3	Pentane	40000
4	SBP Solvent	24000
	Total Capacity	600000

ENERGY MANAGEMENT POLICY

At GAIL, we are committed to minimize the Specific Energy Consumptions for our products to International Standards,

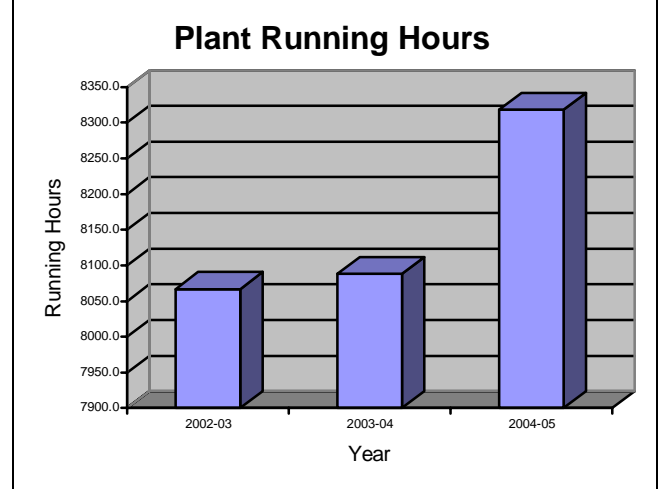
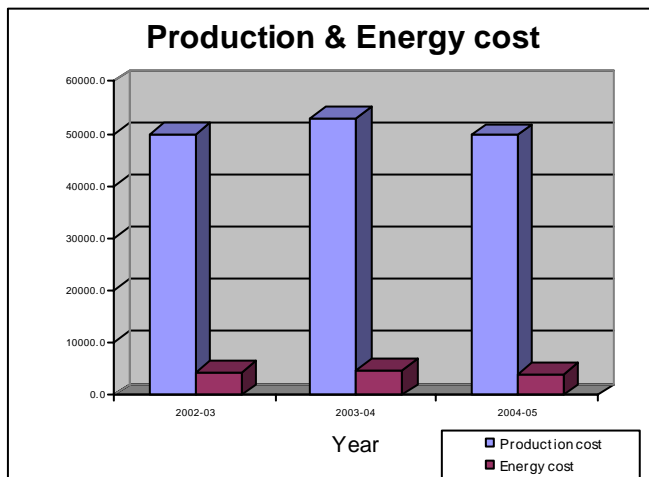
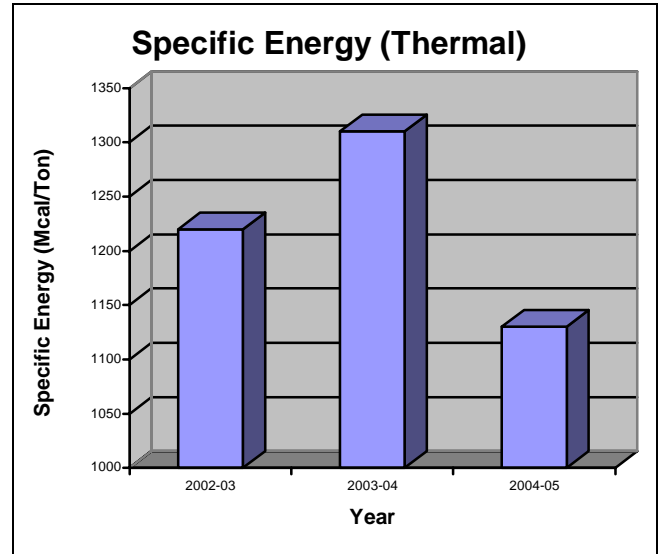
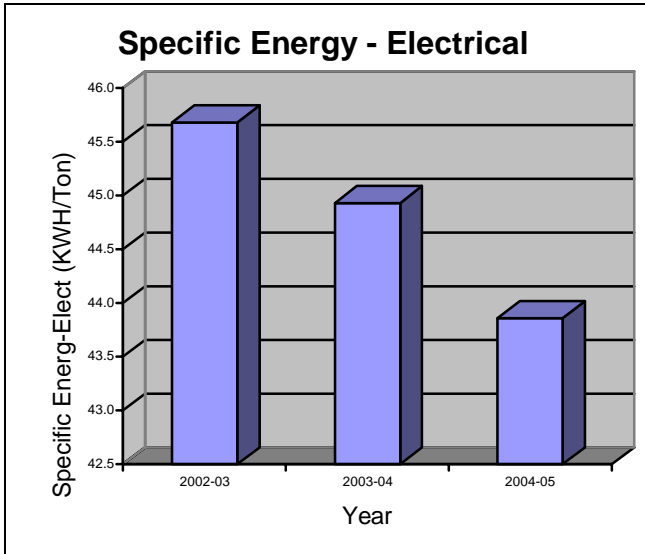
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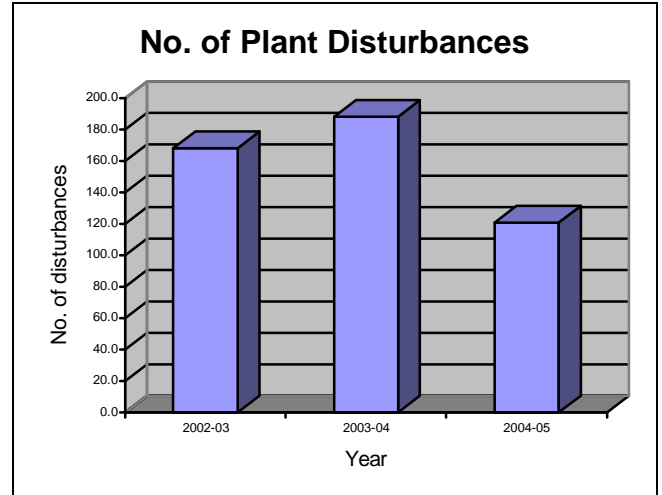
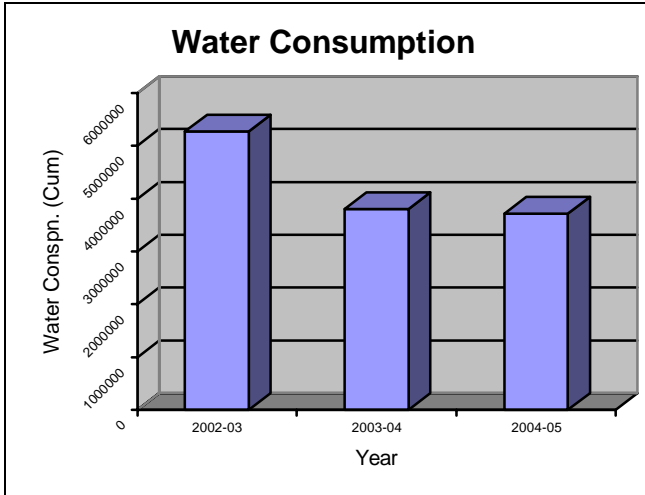
1. Maximizing the Capacity Utilization.
2. Fine tuning our Operations and Maintenance continuously to achieve the above Goal.
3. Technology Up-gradation with energy efficient processes and equipments.
4. Motivating, Training and Encouraging our employees to achieve a target of reducing specific energy consumption.
5. Promoting the use of renewable natural resources for sustainable development, safeguard the society and protecting the Environment.

SPECIFIC ENERGY CONSUMPTION DETAILS:-

Year	Production (Lakh MT)	Capacity Utilisation	Energy Consumption		Production Cost in Rs. (Lakhs)	Energy Cost in Rs. (Lakhs)
			Electrical Lakh KWH	Thermal MKcal		
2002-03	6.08	101.37	277.83	824.15	49970	4347.1
2003-04	6.18	102.94	277.49	900.66	52783	4706
2004-05	6.13	102.25	269.08	771.66	49671	4175

GRAPHICAL PRESENTATION

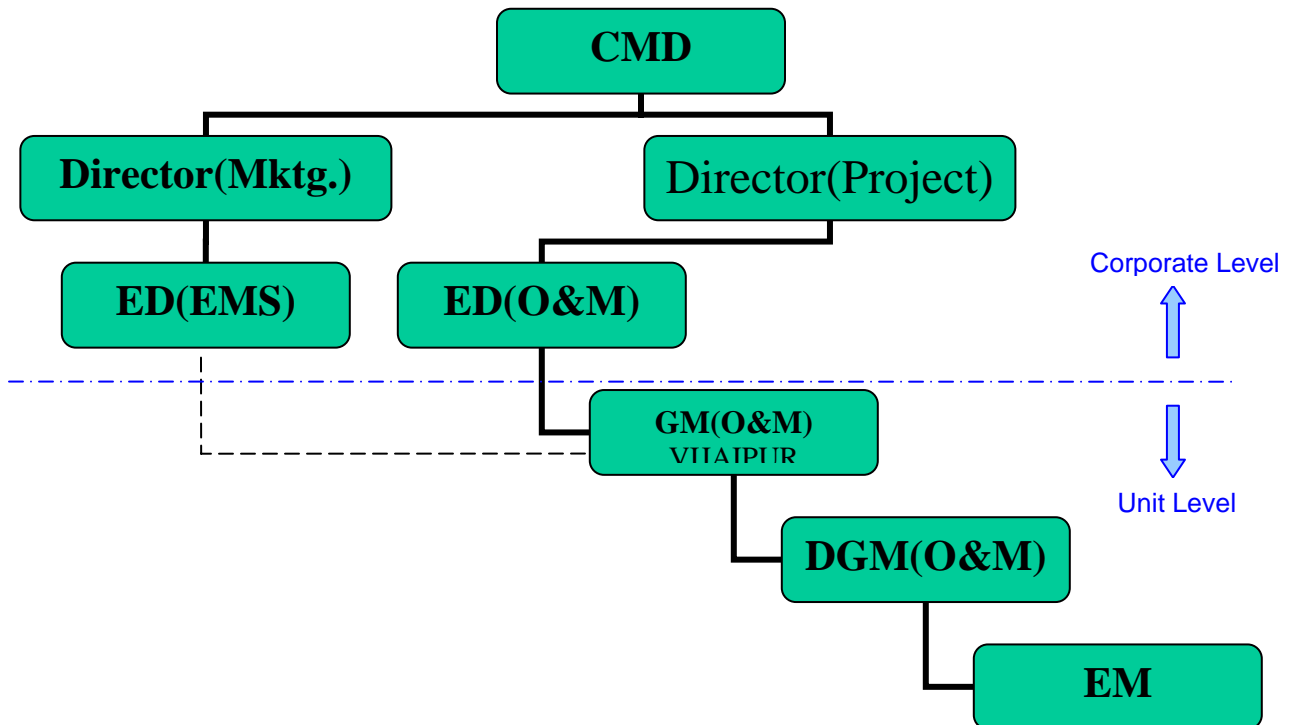




[Energy Conservation Commitment Policy and Set Up](#)

The Organization has Energy Conservation Cell at Corporate office, headed by Executive Director(EMS) assisted by his Team at corporate level for disseminating information related to energy conservation not only within GAIL but also to our valued customers. Being a front running Organization in Natural gas Business the GAIL has also instituted gas conservation award. The Institution of this award reflects our commitment towards conservation of energy.

[Energy Conservation cell structure.](#)



[CONSERVATION OF ENERGY](#)

AT GAIL, VIJAIPUR

Conservation of energy is a consistent endeavor in every department at GAIL, Vijapur. With this spirit in mind, during the period year 2004-2005 following schemes have been implemented at GAIL, Vijapur for conservation of energy which have resulted in considerable amount of saving for the company: The major projects which will have indelible effect on the energy consumption of this plant are given below:-

1. MODIFICATION IN CONTROL PHILOSOPHY OF LEF COMPRESSOR:

The LEF compressor is a gas turbine driven equipment, During summer, it has been observed that machine was not able to take the full load. For running of the plant either natural gas is to be flared or motor driven compressor has to run.

The control philosophy has been modified & temperature control mode has been aligned with the environment condition. The details of Savings are given below.

Power consumed by motor driven compressor = 700 KW

Operating hour of compressor / year = 1485 HR

Total saving of power per annum =10.4 Lakh KWH

Amount saving per annum =Rs. 51.2 Lakh



Controls modified



Machine Stopped

2. STOPPING OF FLARE GAS COMPRESSOR:

The flare gas compressor has been provided for recovering the excess flare gas during plant disturbances. This has given a cushion to operate the plant smoothly. The very existence of the system has been challenged. A detailed in-house study was carried out for studying the excess flare of natural gas.

The causes of excess flare of natural gas are given below-

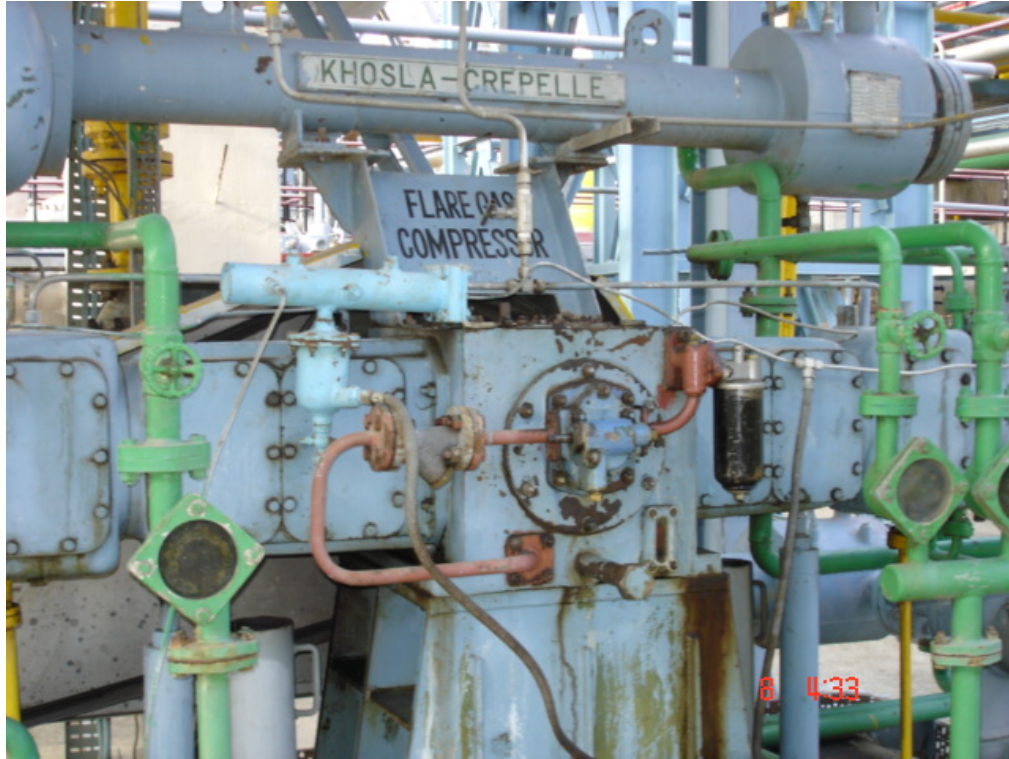
- Passing of PSV
- Passing of PCV
- Plant disturbances

The passing of PSV & PCVs were eliminated by adhering to standard maintenance practices. Root cause analysis of each plant disturbances were carried out and implemented the remedial measures. This is evident from the reduction in plant disturbances in the year 2004-05. Savings achieved due to the same is as under,

Saving of Electrical Energy per annum=4.08 Lakh KWH

Saving of natural Gas =17.52 Lakh M3

Total saving amount=Rs 88.68 Lakh



Machine Stopped

3. REDUCTION OF WATER CONSUMPTIONS:

In the year 2002-03 due to scanty rain fall in the area the need was felt for water conservation. In-order to achieve this various exercises were done which includes collection of past water consumption data, cause & effect analysis, brainstorming, identification of significant areas for improvement, formulation of modification schemes & implementation of the same, subsequent monitoring & control. Following actions were taken:

- Arresting of seepage from the raw water reservoir
- Diversion of storm water drain to horticulture pond
- Isolation of horticulture lines from service water line
- Providing metering arrangement in horticulture line.
- Installation of auto flusher in wash rooms

The consumption figures are given bellow-

<u>Year</u>	<u>Quantity (m³)</u>
2002-2003	5274998
2003-2004	3802531
2004-2005	3721320



PROVIDING SLUICE GATE ON STORM WATER DRAIN TO UTILIZE IT FOR HORTICULTURE



INSTALLATION OF PUMP TO UTILIZE STORM WATER FOR HORTICULTURE

Savings:

Direct Savings = 11 Lakhs

Indirect Savings = 21 Lakhs

OTHER PROJECTS IMPLEMENTED DURING 2003-04.

- Photocell control for lighting.
- Stoppage of idle running of motors.
- Electronic chokes in place of conventional chokes.
- Thermal insulations provided wherever damaged.
- Switching off lights, fans, ACs, by individuals whenever offices are not occupied by providing door switches.
- Solar water heater installed at guest house.
- We have implemented the 5s' system (sort, set in order, shine, standardize & sustain) for good & clean environment. Kaizens system has been implemented for improvement.

Energy Conservation Plans and Targets

Energy Conservation Measures (Planned)	Anticipated savings in Energy	Approx. investment (Rs.lakhs)	Project Commencement & Completion year
Retrofitting of RG heater burner	612.34 Lakh Kcal	80	2005-06 / 2006-07
Advance process control	3630 Lakh Kcal	50	2005-06 / 2006-07
Reconditionig of cooling Tower	18.31 Lakh KWH	30	2005-06 / 2006-07
Replacement of cold insulation	3630 Lakh Kcal	68	2005-06 / 2006-07
Improvement in lighting System	2.2 Lakh KWH	5	2005-06 / 2006-07