

GOODYEAR INDIA LIMITED, Ballabgarh

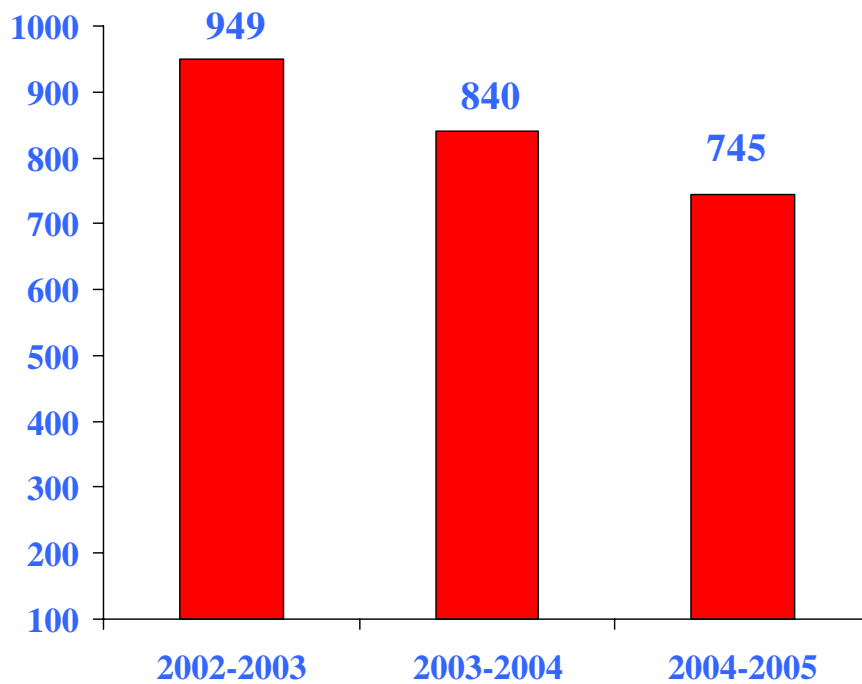
GOODYEAR INDIA LIMITED, Ballabgarh is engaged in manufacturing of Car, Truck & Tractor tires. GOODYEAR INDIA LIMITED company is a subsidiary of Goodyear Tire & Rubber Co., AKRON, USA a multinational & one of the largest tire companies in the world. Unit has a sales turnover of about Rs.630 Crore (as per Annual Report) & employs about 1100 persons. Cost of Utilities is approximately 25 crore/year. Utility used are electrical power and steam. Power is used particularly from Dakshin Haryana Vidyut Nigam Limited and partially generated by heavy fuel engine. During No Grid Power situation, power is generated by HSD based 4 nos 1 MW engines also. Steam is generated with Boilers using Furnace oil. Company had installed RO Plant for using RO water in Boilers in this year 1998.

Globally GOODYEAR globally is driving energy on top priority & keeps tracking all the Plants . GOODYEAR INDIA is presently the leader in GOODYEAR Plants world wide in terms of BTU/Lb.Company has very high commitment to energy conservation and driven by the Manufacturing Director. A high powered team is formed by Manufacturing Director under leadership of Plant Head – Engineering comprising of Electrical Manager, Power House Manager, Instruments/ Electronics Engineer that keeps finding opportunities & tries to arrange resources & capital required. and Implements those ideas. Energy Data for last 10 years is attached showing continued commitment to energy. Energy committee is I continuously working on finding more areas of opportunity & taken a target of 2% improvement every year. GOODYEAR energy conservation policy is attached.

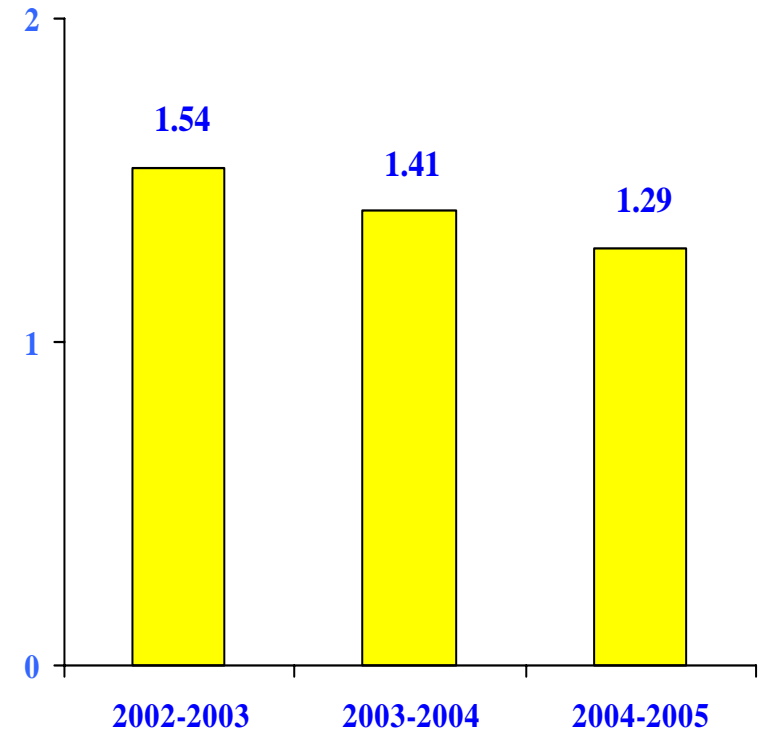
Company has very strong Safety Systems & has the highest priority. All incidences are reported & investigated to eliminate cause. There is a Safety Steering Committee to ensure continuous improvement in Safety Systems. Safety Policy is attached. GOODYEAR was having ISO 9002 till 2003 and was upgraded to TS 16949. GOODYEAR is also ISO 14001 Certified Company & maintains it for last 2 years. Plant is operating Water Effluent treatment Plant and maintaining Industrial Water Discharge. Company is meeting all pollution Standard of Haryana State Pollution Control Board. Company spent recently Rs.25 lacs to meet DG Noise Controls requirement.

GOODYEAR INDIA LTD

ENERGY

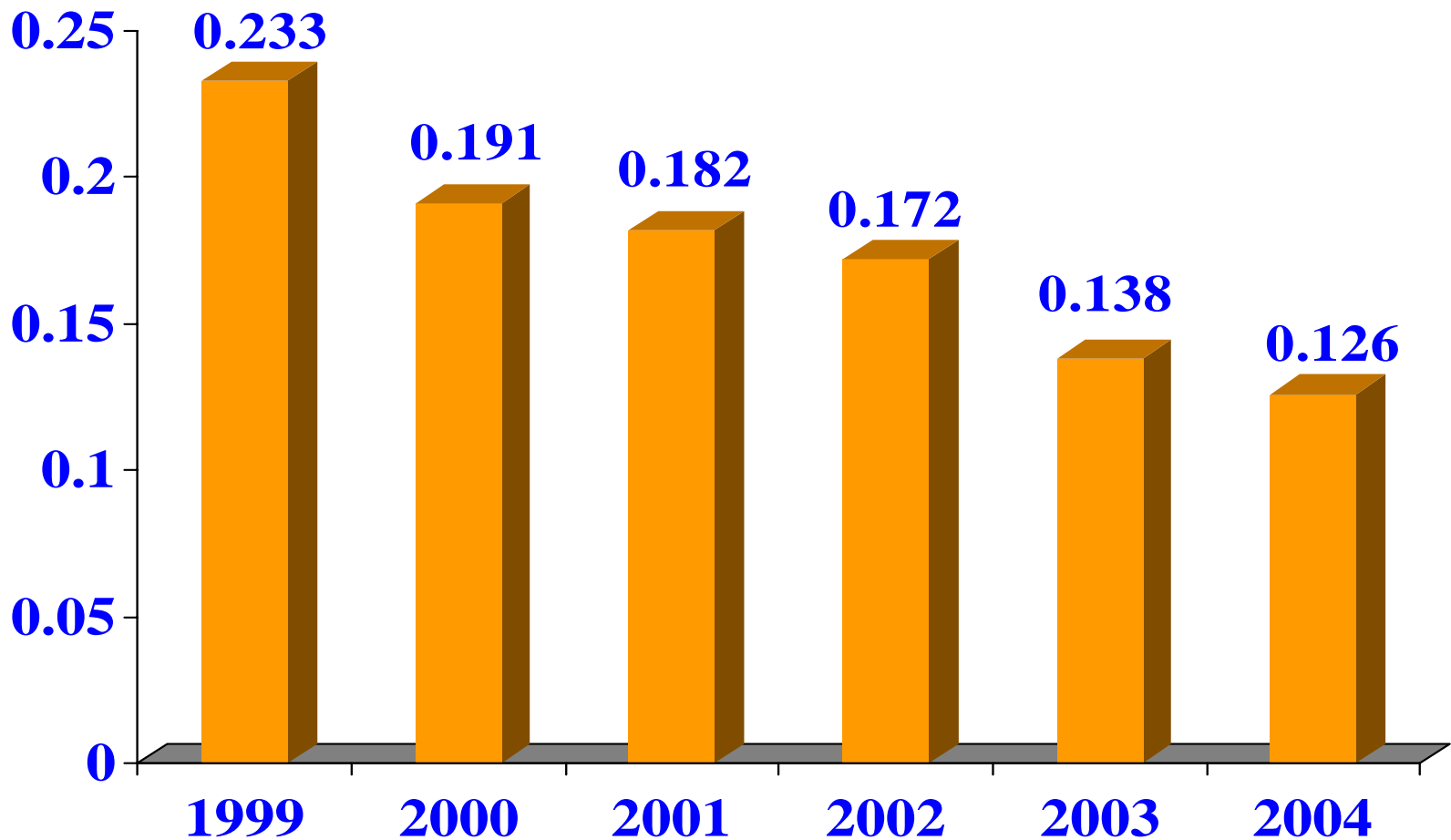


KWH/TON

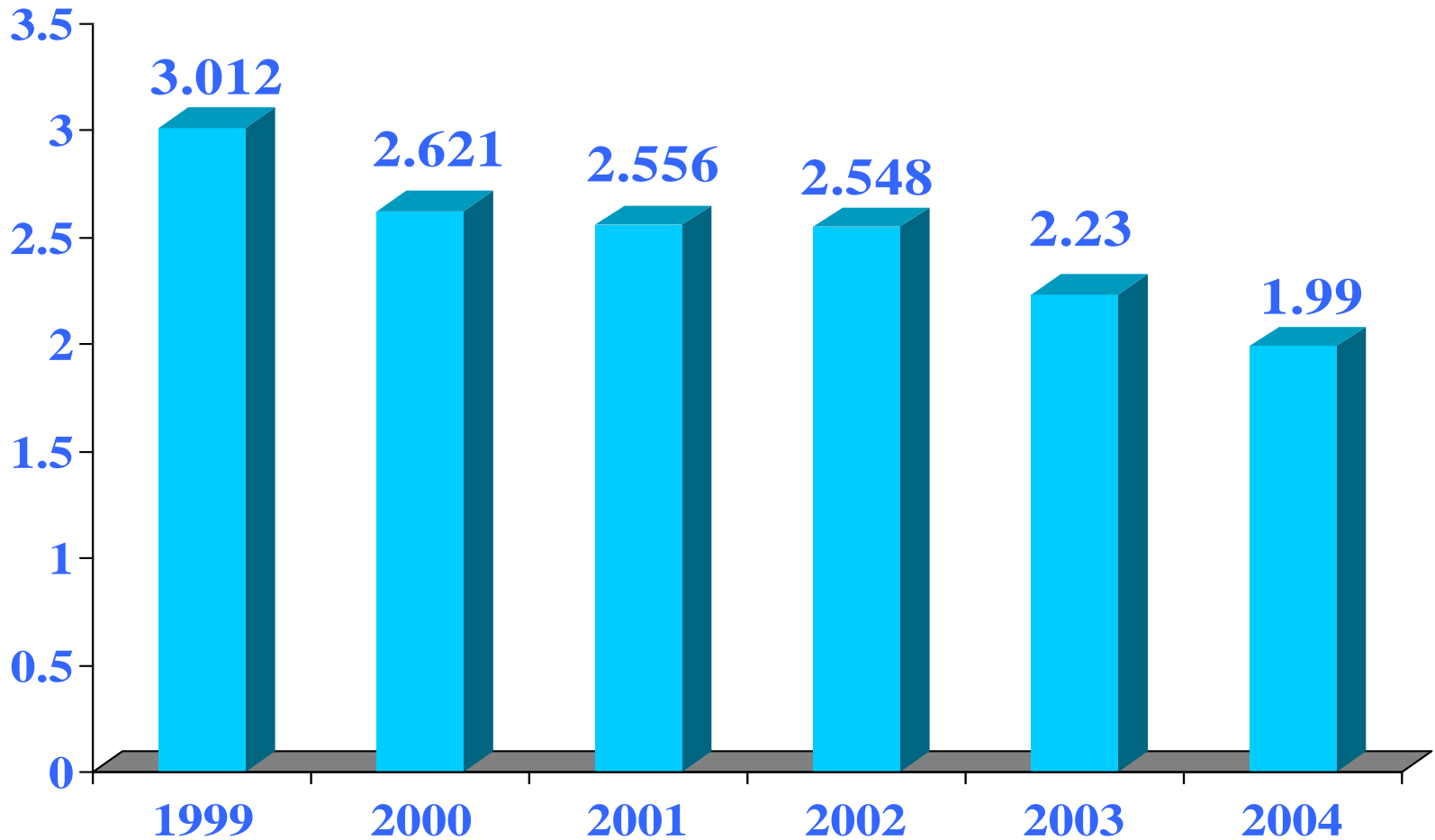


Million K CAL/TON

KG OIL/KG OF PRODUCT FOR HEATING

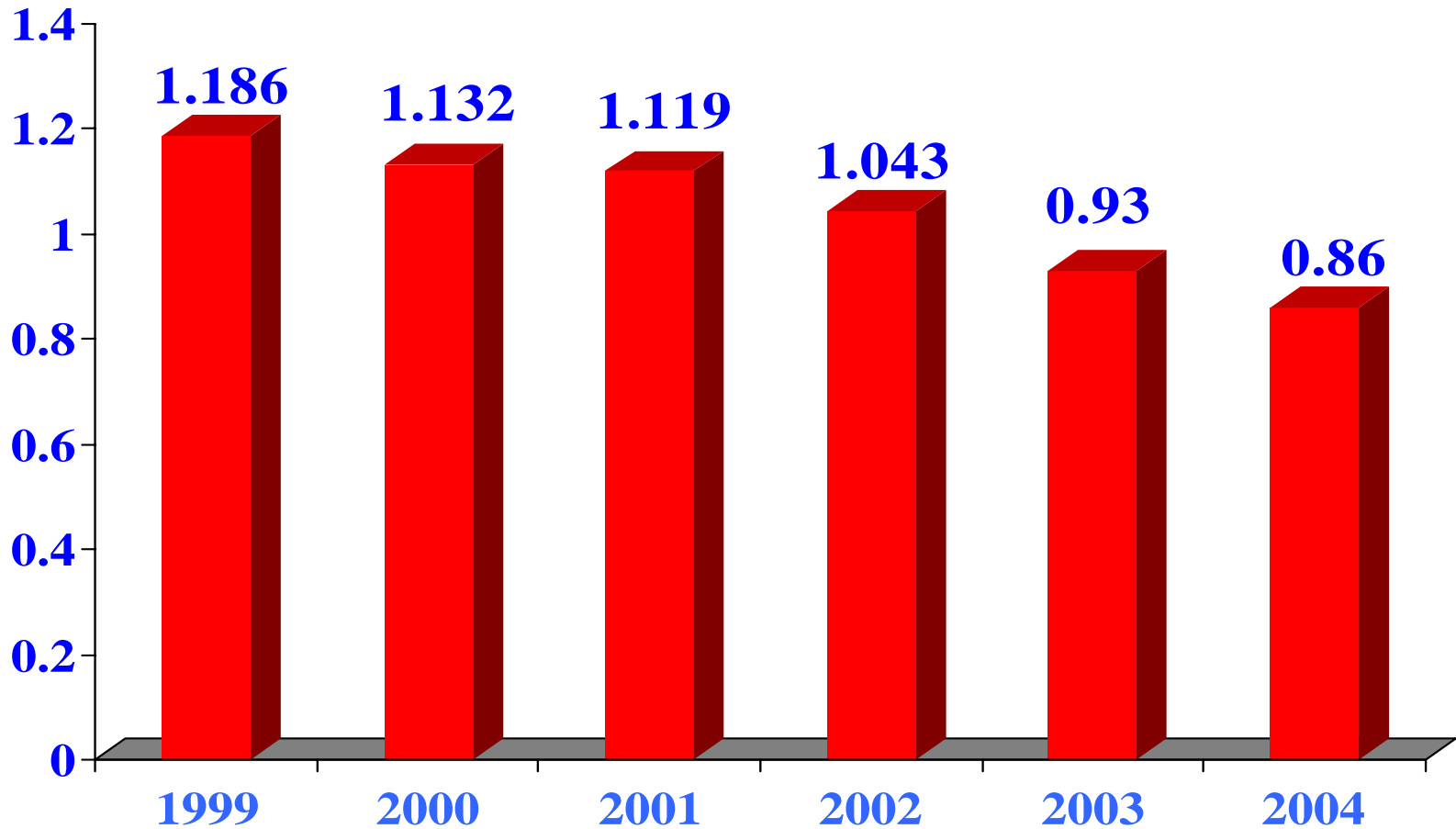


KG STEAM/KG OF PRODUCT FOR HEATING

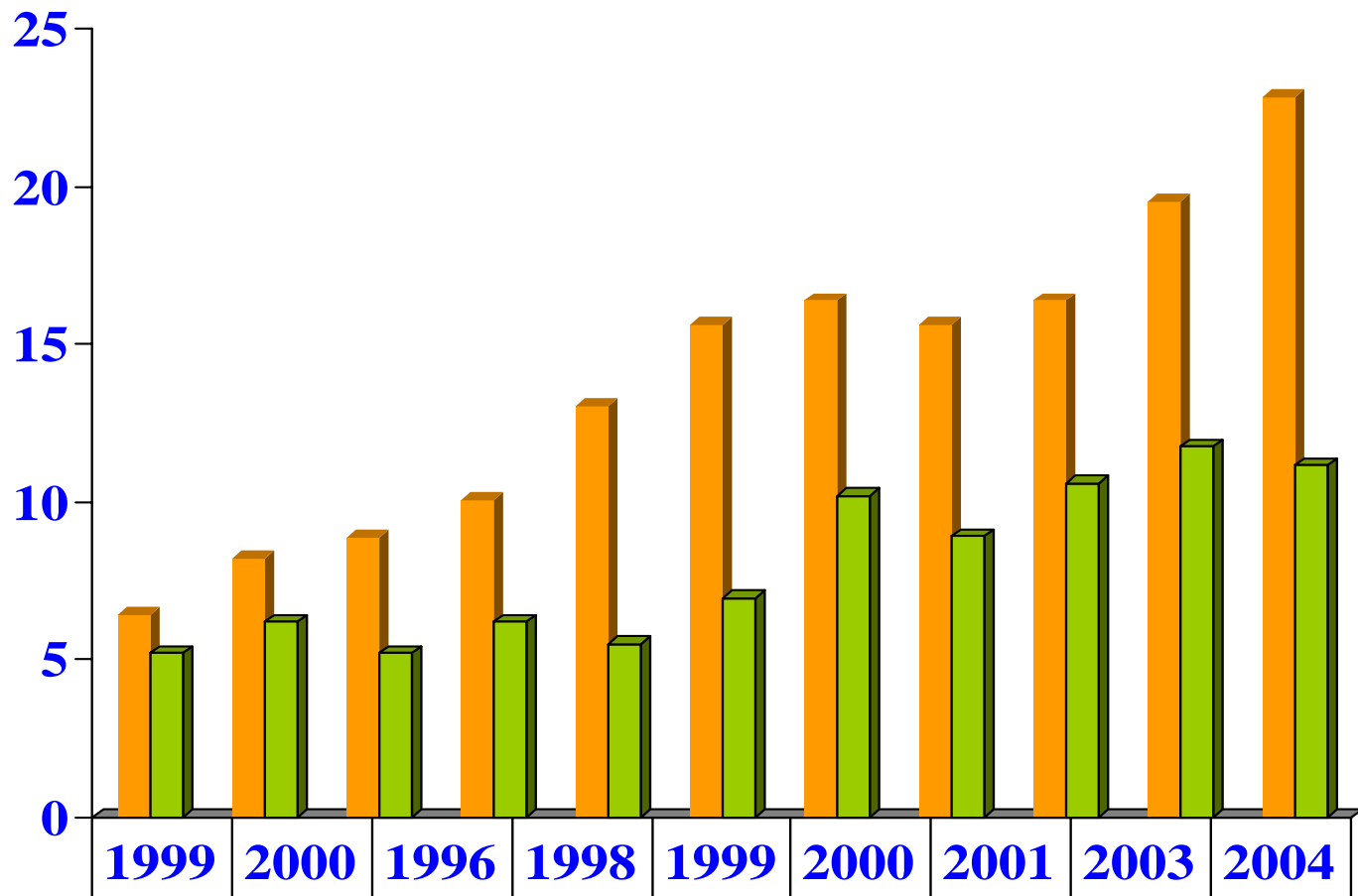


KWH/KG OF PRODUCT

(GRID & OWN GENERATION)



FUEL PRICE TREND IN RUPEES



■ HSD (Rs/Ltr)	6.4	8.2	8.86	13.1	15.6	16.4	15.6	19.5	22.9
■ FO (Rs/KG)	5.19	6.18	5.19	5.5	6.93	10.2	8.9	11.8	11.1

GOODYEAR INDA LTD, BALLABGARH ENERGY POLICY

We the Associates of GOODYEAR INDIA are fully committed to continuous improvement in Energy Conservation efforts and minimizing the specific energy consumption for our products to International Industry Standards & GOODYEAR CORPORATE world.

The policy is achieved through the following:

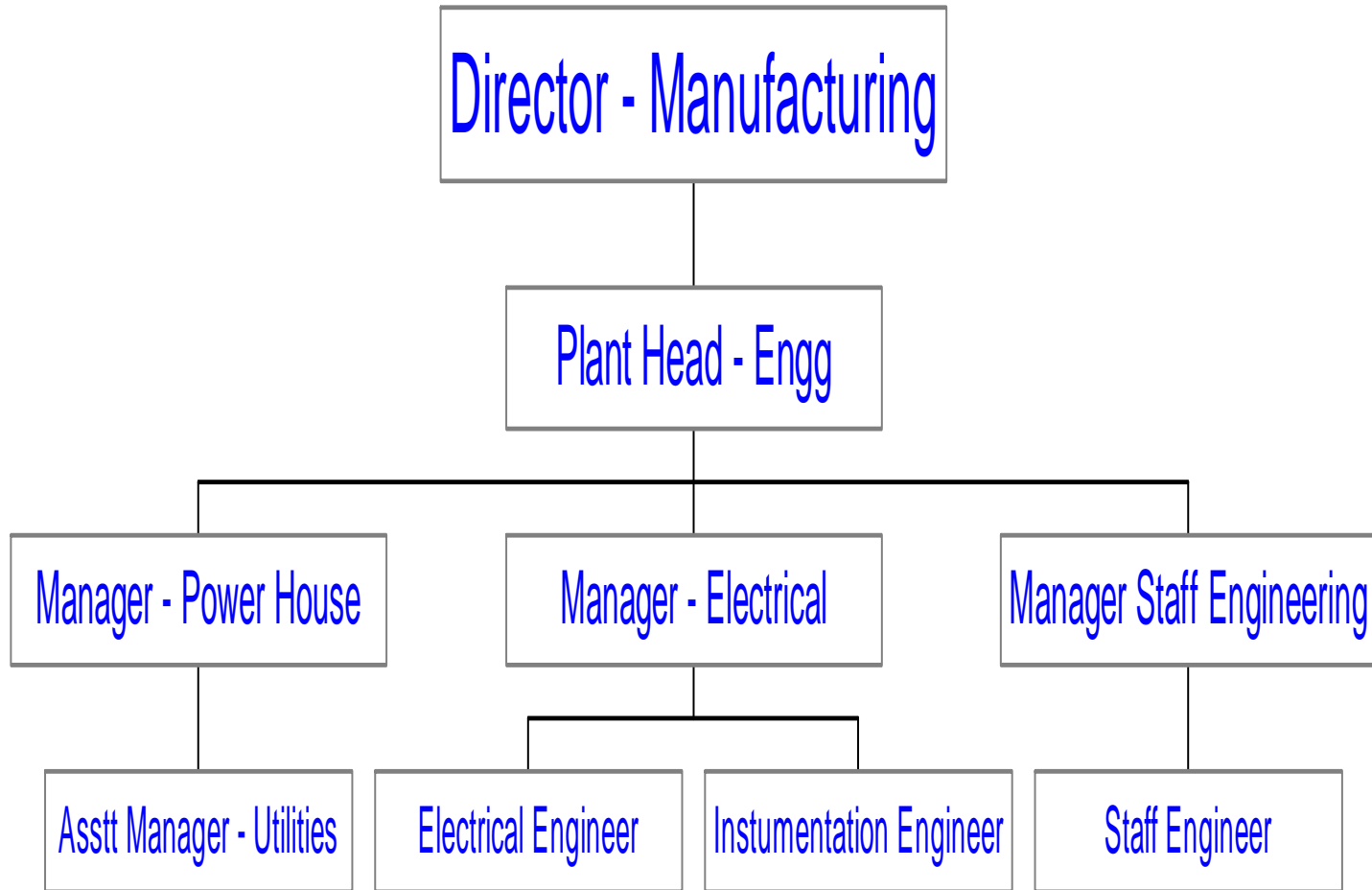
Each drop of oil is precious, look at all small & big energy consuming areas for improvements.

Work with Process Teams & Improve Process efficiency

Educating & Training to each associate for eliminating wasteful energy practices

Up-gradation of technology & energy efficient processes & equipment in a cost effective manner

ENERGY CONSERVATION CELL STRUCTURE



ANNEXURE 16 (V)

MAJOR ENERGY CONSERVATION PROJECTS IMPLEMENTED DURING THE YEAR 2004-05

I. REDUCING ENERGY CONSERVATION OF AIR WASHERS

During summer the electrical load of the plant increases due to running of the Air Washers. These units have a Blower Motor & a Pump.. The pumps had become old & inefficient Some of the Air Washers had excess air flow. Ducting was not properly designed & balanced.

3 Nos. Air Washers shutdown by relocating ducts & installing smaller, more efficient Blowers & Pumps.

3 Nos Air Washers removed.

$$\begin{aligned} 60 \times 3 &= 180 \text{ HP} \\ 20 \times 3 &= 60 \text{ HP} \\ &= \mathbf{240 \text{ HP}} \end{aligned}$$

$$\begin{aligned} \text{Replaced by } 15 \times 3 &= 45 \\ 5 \times 3 &= 15 \\ &= \mathbf{60 \text{ HP}} \end{aligned}$$

$$\mathbf{SAVING} = \mathbf{180 \text{ HP} = 134 \text{ KW}}$$

$$\begin{aligned} \mathbf{IMPACT} &= 134 \times 20 \text{ hrs} \times 26 \text{ days} \times 6 \text{ months} \times 4 \\ &= \mathbf{Rs. 16,72,320/-} \end{aligned}$$

$$\mathbf{INVESTMENT} = \mathbf{Rs. 1,70,000/-}$$

II. SHUTTING DOWN OF 265 AIR COMPRESSOR

This is a utility required for curing process. To maintain this one 200 HP Motor was run. This utility have now been replaced by N2 already available (surplus after modifying Presses & Piping to reduce consumption) and has allowed to shutdown this Compressor completely.

200 HP	=	150 KW
KWH Consumption	=	150x.8x24 hrsx26 days x 12 months
	=	898560 KWH
NET SAVING	=	898560 x 4
	=	Rs.35,94,240/-

III. AIR LEAK MANAGEMENT

By following a strict Air Leak Management Programme the Unit has been able to shut down one Compressor of 200 HP. Earlier the Plant used to run 3 LP Compressor (200 HP each) & 1 HP Compressor (200HP). Presently the utilities are maintained by running 3LP & 1 Booster (75 KW) Compressor

Earlier KWH	=	150 x 4	=	600 KW
Presently	=	(150x3) + 75	=	450+75 = 525
Net Saving	=	75 KW		
Amount	=	75x.8x24 hrs x 26 days x 12 months x Rs.4/-		
	=	Rs.17,97,120/-		

IV.

CONVERSION OF EXTRACTOR UNIT TO ELECTRICAL CONTROL

This unit was controlled by pneumatic circuit and there was lot of air consumption. The Controls were modified and a Electric Motor was used to operate the same. This conversion has given us a saving of **Rs.10 lacs/annum.**

STEAM

I. Optimization of start up / shut down & utilities on weekly shut downs

The Plant undergoes a weekly shut down & start up on Sunday & Monday. Lack of co-ordination between Production & Engineering results in waste of energy

Lack of Communication resulted in Boiler was fixed up and steam generated even though the production was not started. Due to the peak requirements of steam at the start of the shifts two boilers were required to feed the same.

Tech/Financial

Presently the Presses are pre-heated in steps thus controlling the peaks of the load & this demand is met by firing only one Boiler. Also the Boiler is lighted only when the production was ready to start production avoiding waste of energy.

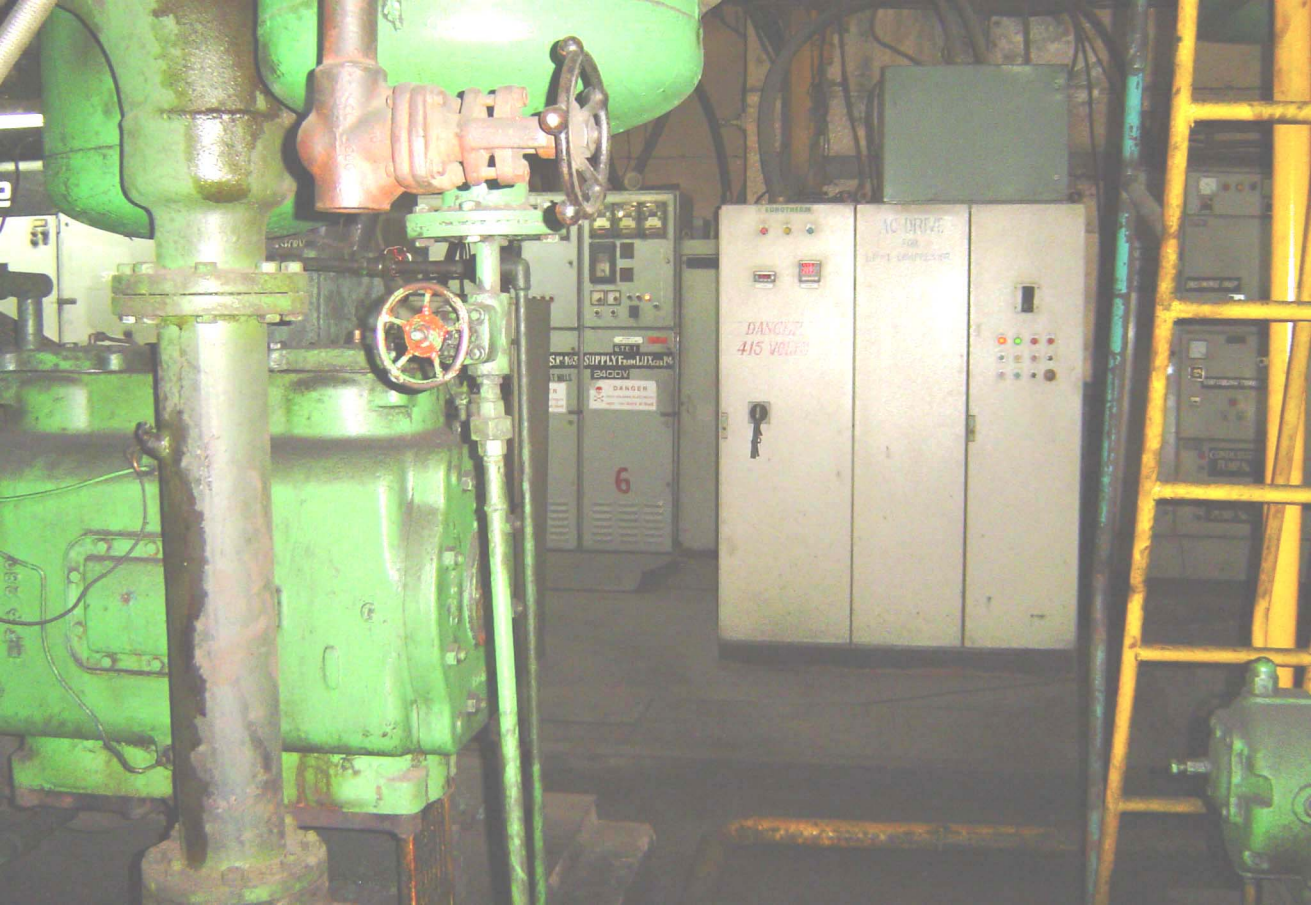
IMPACT

Saving of 2 KL / Dayt every shut down
i..e. $15 \times 1000 \times 2 \times 52 = 0.30000 \times 52 = \text{Rs. } 16,60,000 / \text{Annum}$

II. INSULATION OF HEADERS, PIPES THROUGHOUT THE PLANT

A massive drive to insulate the steam carrying headers pipe lines was launched which gave rich dividends. The steam consumption was reduced by 10 Tonnes / Day.

Investment = Rs. 10 Lakhs
SAVING = Rs.20 Lakhs



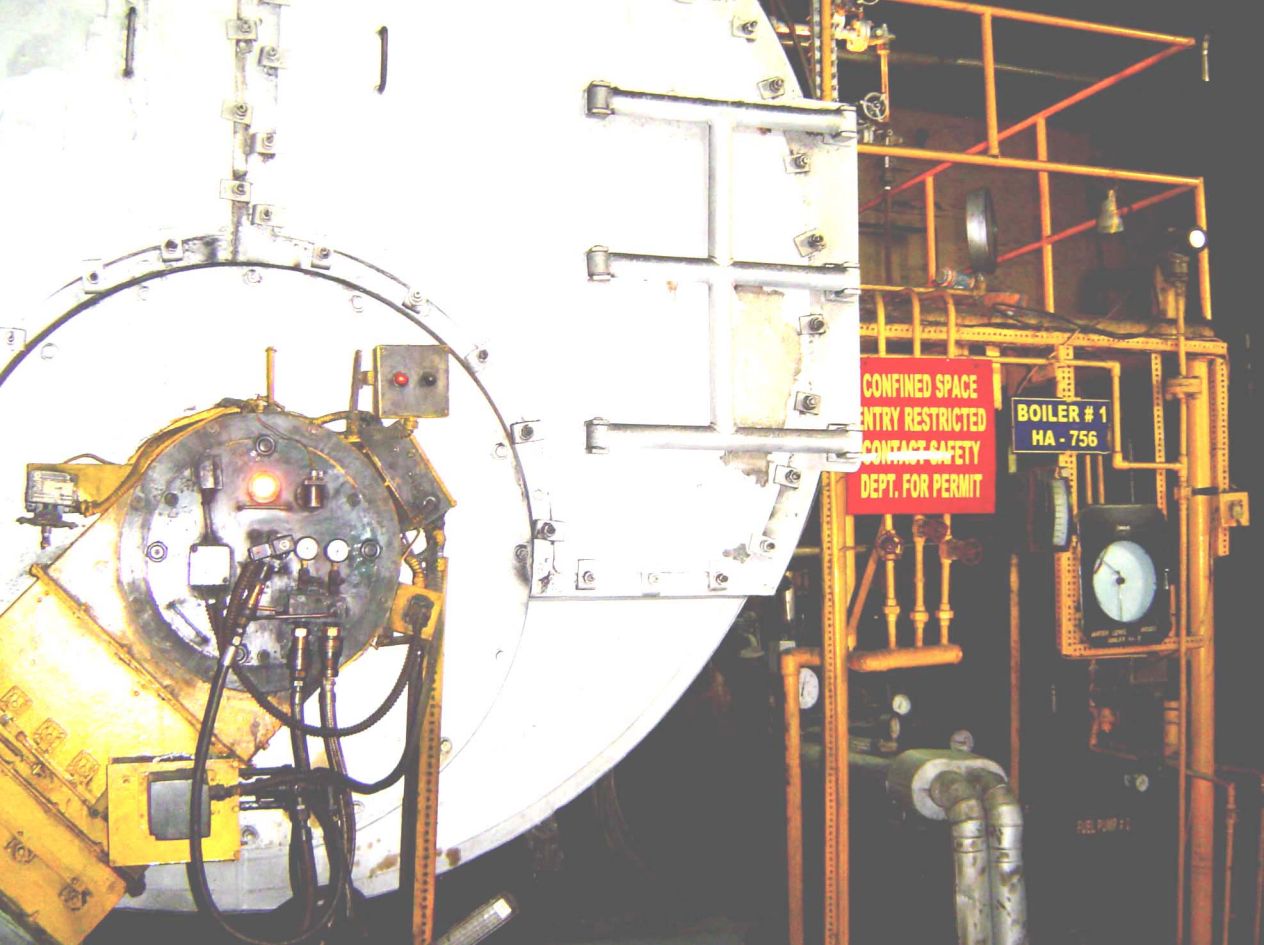
STE 1
SUPPLY FROM J/2000
2400V

6

DANGER
415 VOLTS

AC DRIVE
FOR
L.P.P. COMPRESSOR

COMPRESSOR



CONFINED SPACE
ENTRY RESTRICTED
CONTACT SAFETY
DEPT. FOR PERMIT

BOILER # 1
HA - 756



FUEL PUMP # 1





e
EUROTHERM
DRIVES

690+
SERIES

AC Drive

Technical specifications and safety information are printed in small text at the bottom of the drive's faceplate.



L.P. #3

