

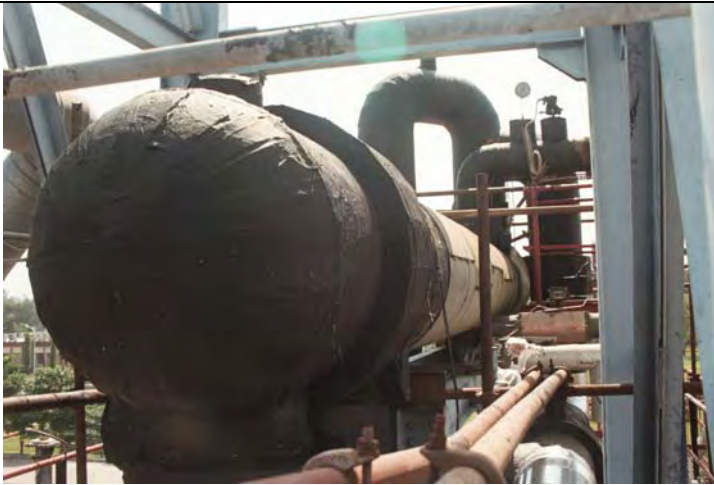
## ENERGY CONSERVATION ACHIEVEMENTS AT GAIL VAGHODIA

During the period 2004 to 2007 the unit implemented 08 energy saving ideas generated through periodic brain storming sessions. Annual savings of Rs.67.74 lacs was achieved with an investment of Rs. 16.81 lacs with average payback period lesser than a year.

YEAR	PRODUCT	KWH/MT	% REDUCTION OVER 2004-05	MKC/ MT	% REDUCTION OVER 2004-05
2004-05	LPG	136.4	-	0.458	-
2005-06	LPG	119	12.75	0.376	17.9
2006-07	LPG	113.7	16.6	0.218	52.4

### ENERGY CONSERVATION ACHIEVEMENTS DURING FY-2006-07 AT GAIL VAGHODIA (LPG RECOVERY UNIT)

#### 1. INSTALATION OF REDUNDANT CONDENSER FOR CONDENCING LPG COLUMN OVERHEAD VAPOURS



Redundant Old LEF (Light End Fractionater) Condenser was utilized for providing additional cooling for condensing LPG column over head vapors using the available chill in the existing process streams. This eliminated the hydrocarbon flaring from the LPG column and saved significant amount of energy.

Implemented: April-06

Energy Saved (MKC per Annum): 570

Investment (Rs. in lacs): 10.58

Savings (Rs. lacs per Annum): 9.38

## 2. MODIFICATION IN NTGG HEATER (AN ELECTRICAL MODIFICATION)



Regeneration loop heater in NTGG (Natural Gas to Gas & Gasoline) unit used to trip due to terminal overheating resulting frequent tripping of the unit. Significant amount of hydrocarbon used to get flared. After slight modification in the terminal box the problem was eliminated.

Year of Implementation: August-06

Energy Saved( MKC per Annum): 28

Investment (Rs. in lacs): 0.50

Savings (Rs. lacs per Annum): 0.46

## 3. ELIMINATION OF COOLING PROBLEM IN NTGG ANALYGER



NTGG Product analyzer used to malfunction due to frequent tripping of its cooling unit. As a result significant amount of hydrocarbon had to be flared due to non conformity of product. The old cooling unit was an imported flame proof machine and significant amount of expenditure used to incur on its maintenance due to non availability of original spares. An indigenous system was procured and installed mitigating the said problem.

Year of Implementation: August-06

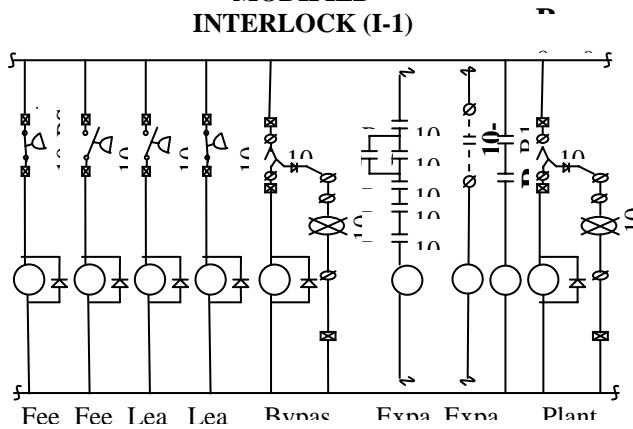
Energy Saved( MKC per Annum): 61

Investment (Rs. in lacs): 1.50

Savings (Rs. lacs per Annum): 1.00

#### 4. LOGIC MODIFICATION IN LPG RECOVERY UNIT

##### MODIFIED INTERLOCK (I-1)



Drawn By:      Proposed By:      Approved By:

Over pressurization of process system followed by popping of PSV's was experienced during start up of LPG Recovery Unit. Expander running contact was given to plant trip interlock. It facilitated closure of plant SDV avoiding over pressurization and popping of PSV's and saved significant amount of precious hydrocarbon.

Year of Implementation: October-06

Energy Saved( MKC per Annum): 522

Investment (Rs. in lacs): 2.5

Savings (Rs. lacs per Annum): 8.6