

Gujarat State Fertilizers and Chemicals Ltd Vadodara
Energy Conservation Achievements - Schemes implemented in the year
2003-2004

1.0 Feed Preheater for LBP Distillation Column :

Preheating of feed to LBP distillation carried out from 50°C to 85°C by utilizing heat content of process stream which otherwise was lost to cooling water. One no. of heat exchange was installed alongwith other minor modifications in piping etc. at a cost of Rs. 5.4 lacs. Steam saving of 1200 MT/Yr. realized equi. to Rs. 12 lacs/year at steam cost of Rs. 1000/MT. Simple payback period is less than 6 months.

2.0 Trimming of Impeller of Ammonia Transfer Pump.

In A-IV Plant refrigerated ammonia transfer pump (operating temp. – 33°C) is having capacity of 60 m³/hr. During normal operation as bulk of ammonia is being supplied before refrigerating at 0°C, load on pump was ranking very low. The impeller of the pump was trimmed to reduce power consumption. Simultaneously action for procurement of smaller capacity pump is also taken. Power saving realized ~ 10 kWH, (80000 kWH/Yr.) equi to Rs. 1.2 lacs. Payback period is 10 days.

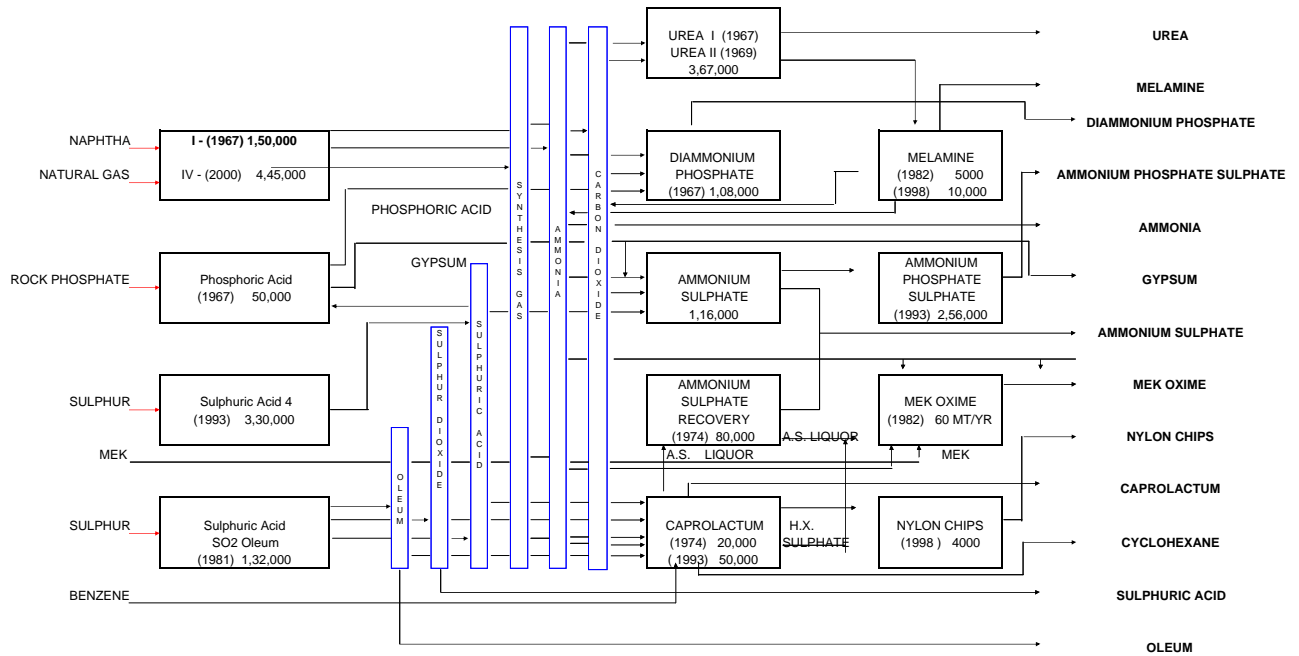
3.0 Direct returns of TD (I&II) vacuum ejectors barometric condenser CW to CT-Nylon-6

Condensate transfer pumps were operated to supply condensate of barometric condensers, to cooling tower. A header of higher dia. laid down to utilize head available and to transfer condensate by gravity only. This could eliminate usage of condensate transfer pump, resulted into power saving of 150 kWH/Day. The scheme implemented at cost of Rs. 2.87 lacs. Simple pay back period is less than 3 years.

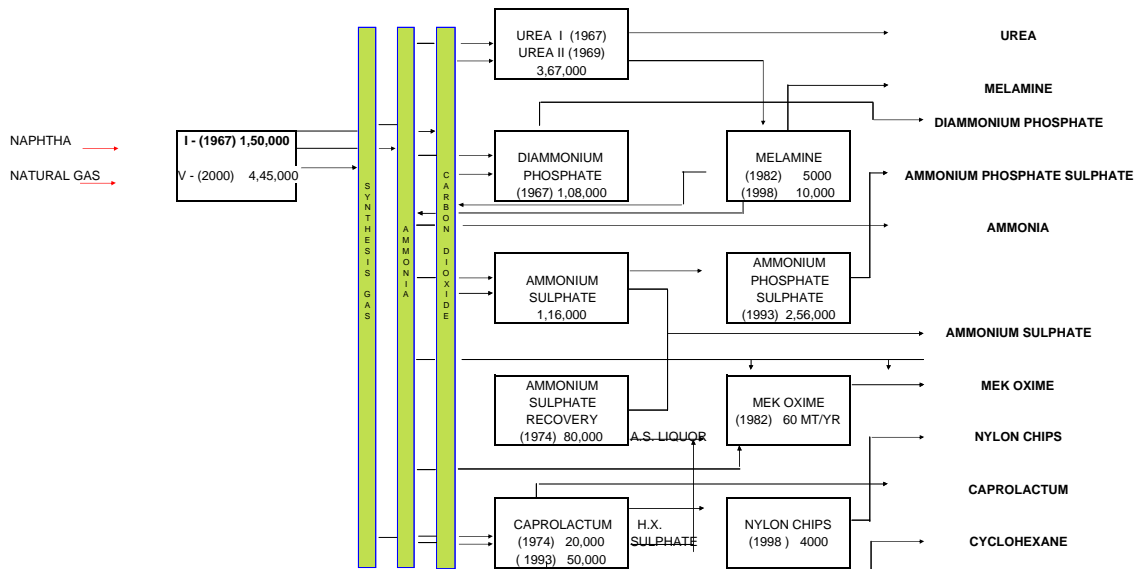
4.0 Reduction in NG consumption at Capro-1 plant.

O₂ in flue gas of two nos. of furnaces was controlled by judgement and damper opening was not changed frequently with change in plant load. Facility created so that flue gas sample can be drawn for O₂ measurement. Now O₂ is being measured at plant lab and accordingly damper adjustment carried out to maintain amount of excess O₂ and there by to reduce NG consumption. Saving of NG realized is 1.95 lacs Sm³/Year.

GSFC DIVERSIFICATION WITH A UNIQUE PRODUCT INTEGRATION



AMMONIA PLANTS INTEGRATION



SULPHURIC ACID, SO2 & OLEUM PLANTS INTEGRATION

