

## UNIT PROFILE

Thermal Power Station I Expansion of NLC consists of 2 X 210 MW capacity. The units were commissioned in the year 2002 and 2003 respectively and are in operation.

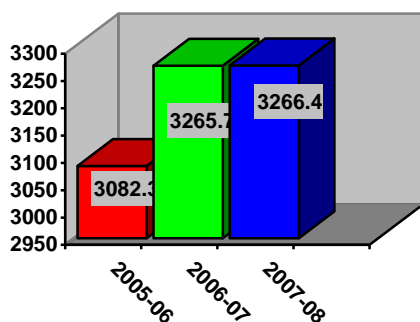
This Plant is fully automated, controlled by DDCMIS. It has a modern ash collecting system, additional air firing system for controlling NOx emission and a Cold Gas Recirculation system for controlling slag formation.

## ENERGY CONSUMPTION

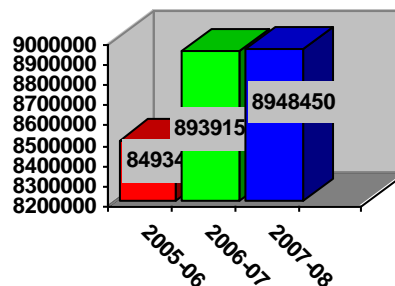
Year-by- year generation is increased with decreasing Specific Energy Consumption. Generation and Thermal energy consumption (Million Kcals/year) during last 3 years is as below.

Year	Generation	Thermal Energy (Million Kcals/Kg)
2005-2006	3082.32	8493441
2006-2007	3265.71	8939151
2007-2008	3266.4	8948450

**GENERATION**



**THERMAL ENERGY**

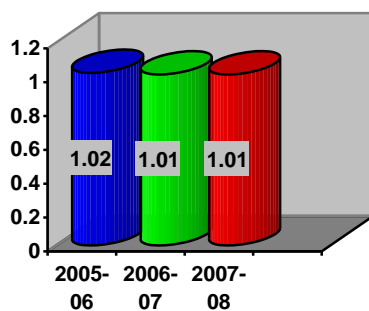


The increase in heat consumption is a reflection of increasing production capacity. However the specific energy consumption is at reducing trend.

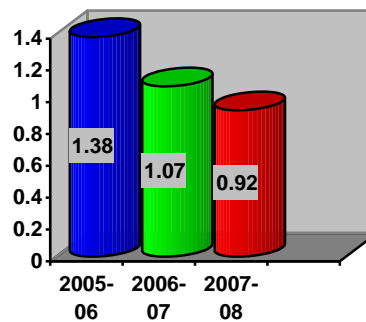
## SPECIFIC ENERGY CONSUMPTION RECORD

Sl.No	Specific Consumption	Unit	2005-2006	2006-2007	2007-2008
1	Specific Lignite Consumption	Kg/KW hr	1.02	1.01	1.01
2	Specific Oil Consumption	MI/KW hr	1.38	1.07	0.92
3	Specific DM Water Consumption	L/KW hr	0.07	0.08	0.07
4	Auxiliary Consumption	%	9.08	8.47	8.37

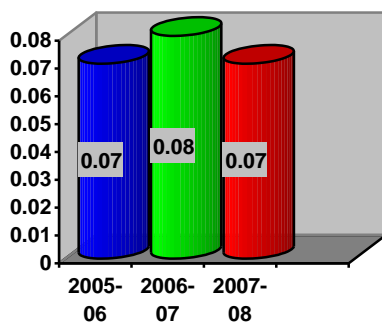
**SPECIFIC LIGNITE CONSUMPTION**



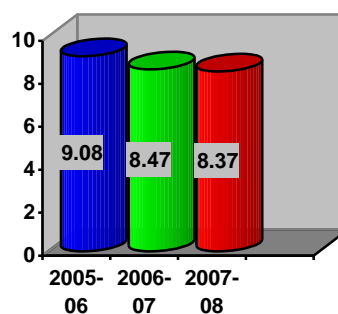
**SPECIFIC OIL CONSUMPTION**



**SPECIFIC DM WATER CONSUMPTION**



**AUXILIARY CONSUMPTION**



**ENERGY CONSERVATION COMMITMENT, POLICY AND SETUP: -**

The company has a well-defined Energy Policy to under score its commitment towards Energy conservation. To inculcate awareness on the importance of Energy Conservation, the following setup is followed.

Setting up a dedicated Energy Conservation cell with the following agenda to enable the company to reduce Energy Consumption on continual basis.

- To identify potential area for energy saving in consultation with various department.
- To suggest measures for better efficiency and utilization of the equipments.
- To monitor quantum of energy saved on account of energy conservation initiatives
- To conduct competition and awareness programme for the employees and their wards.

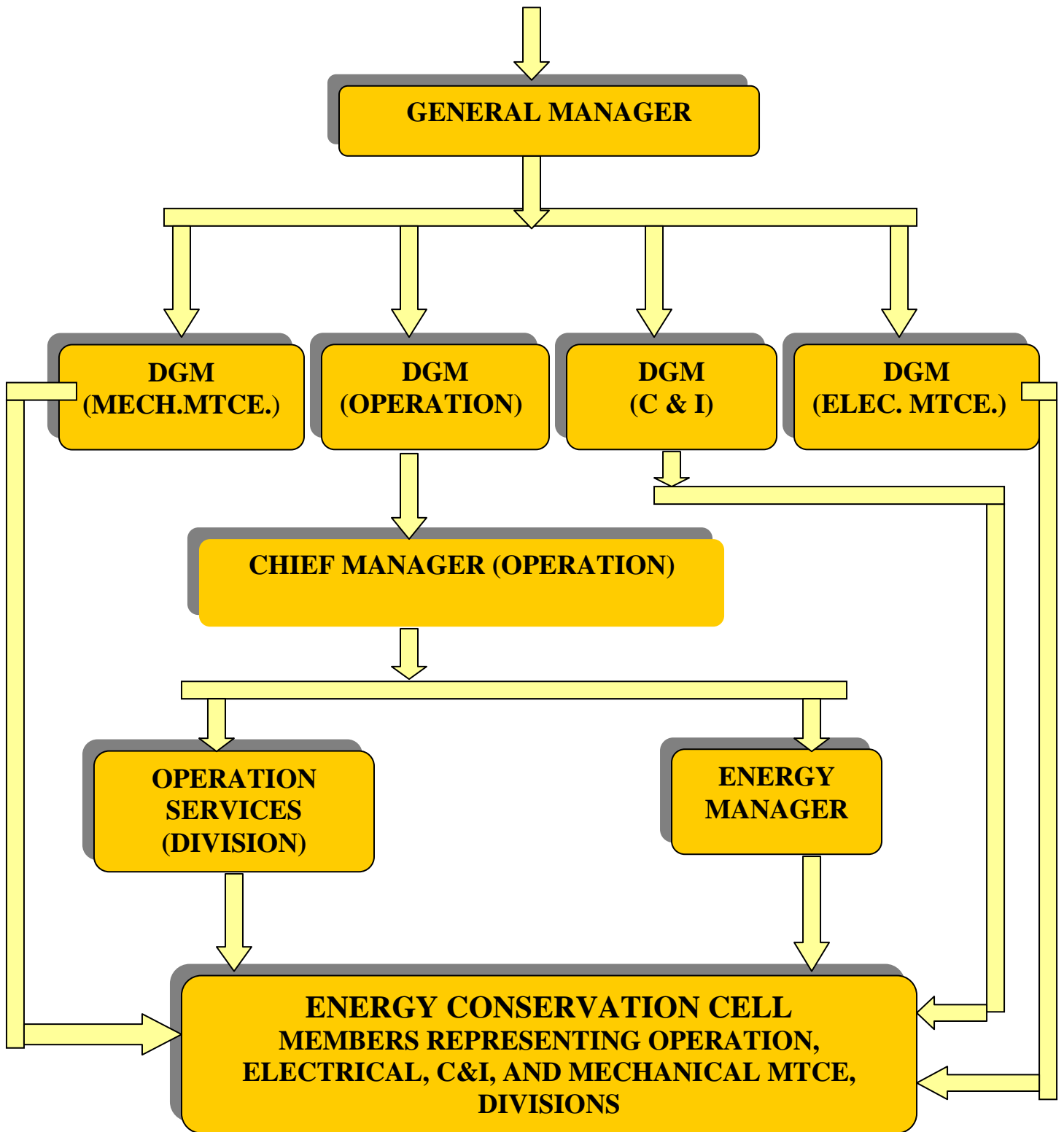
### **ENERGY CONSERVATION AWARENESS PROGRAMME: -**

- Energy conservation programmes for housewives and children were conducted. A booklet containing valuable information on Energy resources and Energy Conservation Techniques for household appliances was issued during Energy Conservation Week.
- In-house and outside training programme for staff and workmen for improved work practices. The programmes conducted are listed below.
  - a. Energy Management Audit for Executives.
  - b. Energy Conservation for Non-Executives.
- Our intranet system has the facility to interact with members on Energy Conservation Activities.
- Cross word puzzle competitions for spouses and children of the employees were conducted.
  
- Prize winning slogan.
  - a. Lavish lighting today sure to lead darkness tomorrow.
- Catchy slogans & stickers were pasted on switchboard and supply panels & important places.



**A WELL DEFINED ENERGY CONSERVATION CELL STRUCTURE**

**CHIEF GENERAL MANAGER**



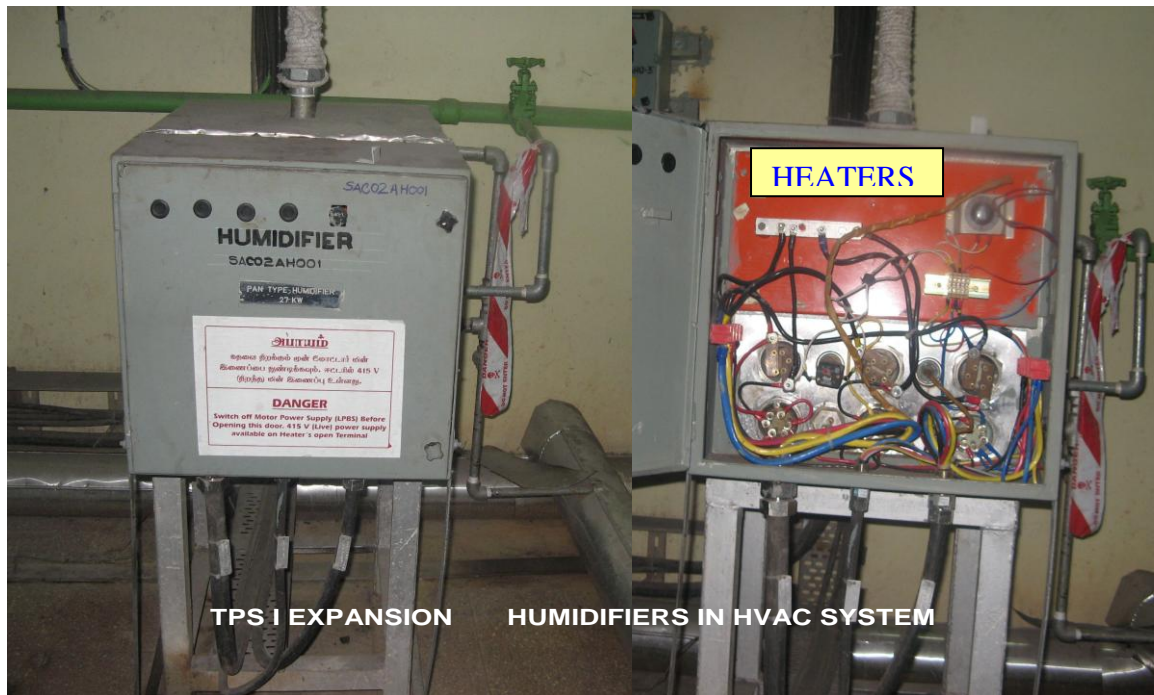
## ENERGY CONSERVATION ACHIEVEMENTS

During 2005-2008 company has implemented various Energy conservation measures to improve Energy efficiency. The details are shown below:

<b>Year</b>	<b>Energy Conservation Projects Implemented</b>	<b>Investment made (Rs Lakhs)</b>	<b>Energy Saved</b>
2005-2006	5	0.79	10.30
2006-2007	3	0.80	11.93
2007-2008	3	0.76	6.08

**MAJOR PROJECTS IMPLEMENTED DURING THE YEAR 2007-2008 ARE LISTED BELOW: -**

## Conservation of electrical Energy by Switching off one out of two heaters in HVAC System:



In Heating, ventilation and Air conditioning system, humidity analysis was taken over a period of time. It was observed that as the humidity was maintained constant there was no necessity to keep the heaters in service. Hence the heaters in HVAC were switched off thereby effecting considerable saving of electrical energy in HVAC system.

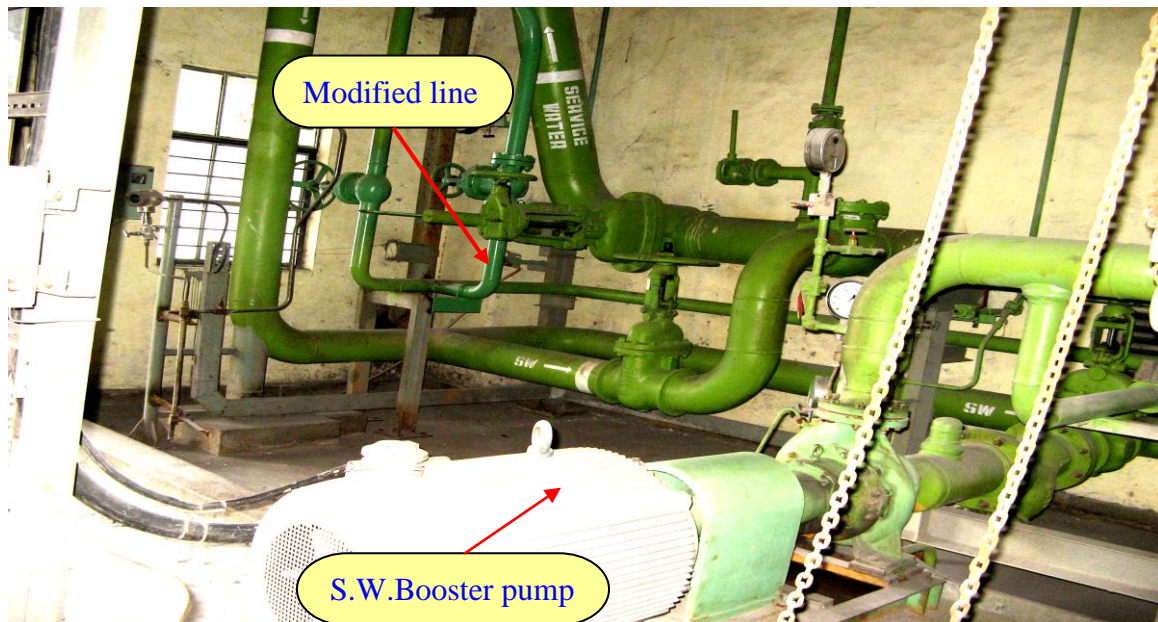
Annual Energy Saved  
3, 15,360 units

Investment  
NIL

## STOPPING OF ONE BORE WELL PUMP BY CARRYING OUT MODIFICATION IN WATER LANCE SYSTEM: -

Two bore well pumps have to run in order to get adequate pressure for carrying out Water Lance Operation in Boiler.

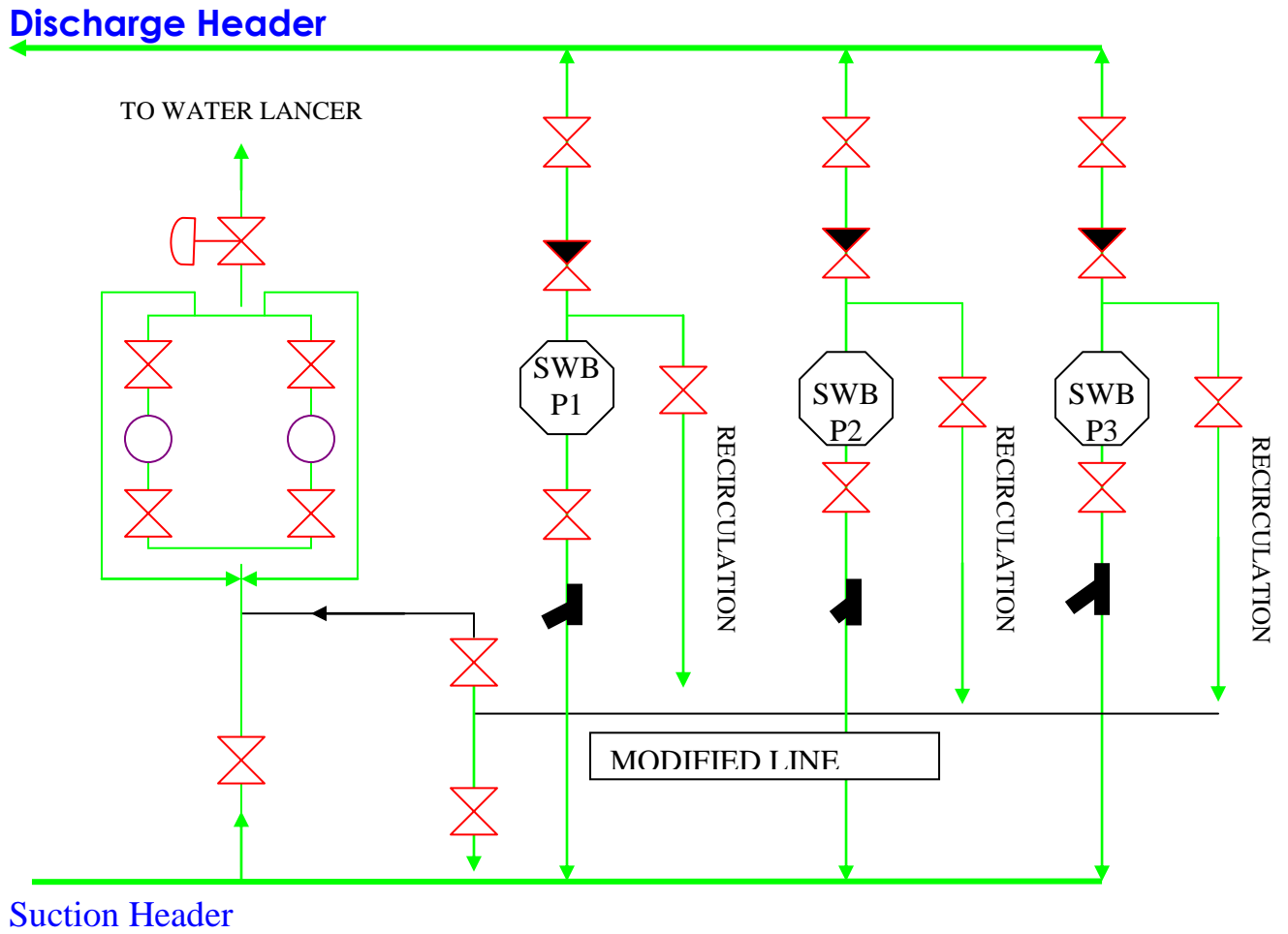
A modification was carried out from the recirculation line of service water booster pump to suction point of water lance pump. By doing so, sufficient pressure now develops at the discharge of Water lance pump. This modification avoids starting of additional Bore Well Pump during water Lance operation.



Annual Energy Saved  
2, 86,890 units

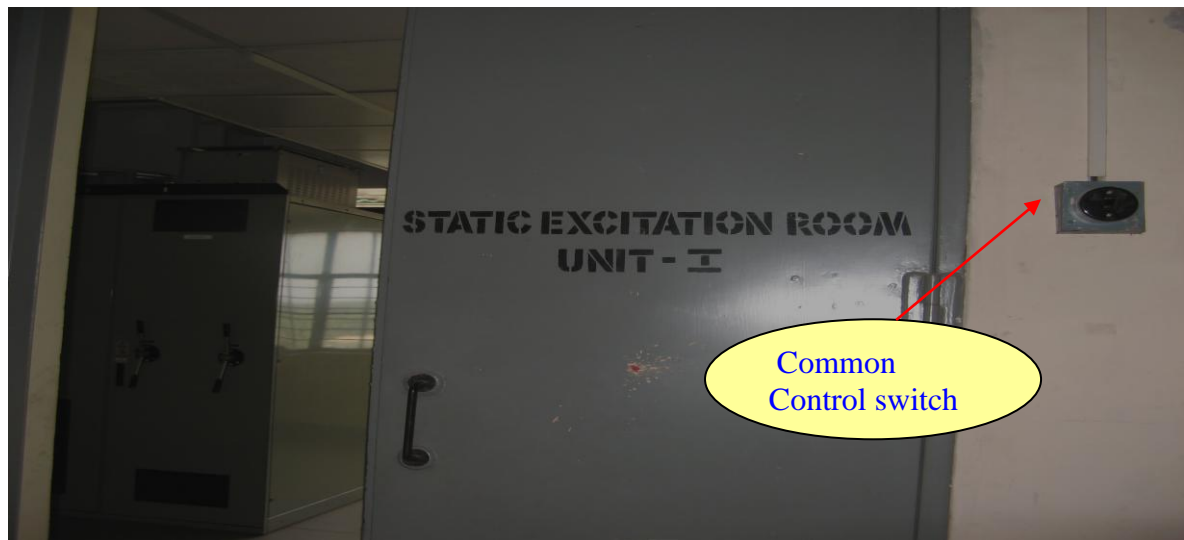
Investment  
Rs.75, 000

**MODIFICATION IN SERVICE WATER BOOSTER PUMP: -**



## LIGHT ENERGY SAVING BY PROVIDING COMMON CONTROL SWITCH

In Unit I&II, Static Excitation Rooms, 20 no, 2 X 40W tube lights were burning continuously. Suitable modification in lighting circuits was carried out to provide common control switch. It facilitates to switch ON/OFF lights whenever required.



Annual Energy saved  
7849 units

Investment  
Rs 1,000

## ENERGY AUDIT IN ONE UNIT OF 210 MW

We are the front-runners to set an example to follow the Energy Act swiftly. Yes, **M/S Conzerve System Pvt Ltd**, Bangalore has been entrusted to carryout Energy Audit in one of the 210MW Units.

### PRELIMINARY ENERGY AUDIT

**Preliminary Energy Audit was conducted on 10/09/08 & 11/09/08. by M/S Conzerve System Pvt Ltd, Bangalore**

• Detailed Energy Audit will be conducted during the last week of October.

## ENERGY CONSERVATION PLANS AND TARGETS

The following energy Conservation projects are under active implementations.

Sl.No	Energy Conservation Measures (Planned)	Anticipated Energy Saving	Approx Investment	Project Commencement and completion year
1	Reduction in discharge oil pressure of HFO pump.	87600KWh	NIL	2008-09
2	Conservation of ground water in water lance system	Ground water is conserved	NIL	2008-09
3	Providing common control switch in Dinning Hall, Thyrister & UCB control room.	8000 KWh	Rs 1500	2008-09
3	Installation of Solar water heating system in canteen	157680KWh	Rs 5,00,000	2009-10
4	Introducing Capacitor in Bore well pumps	30KVA Demand reduced	Rs 1,50,000	2009-10

### ENVIRONMENT AND SAFETY: -

Energy efficient operation of the plant leads to optimum usage of natural resources. Because of the above approach, we have obtained [ISO 9001](#) for quality Management system in the year 2000. Our unending quest for environment excellence is demonstrated through implementation of Environment Management System. The power station has been duly certified for OHSAS [18001-1999](#) and [ISO 14001-2004](#) for the wholehearted commitment towards health, safety of the workmen and for maintaining pollution free atmosphere.