

ITC Limited Mumbai



As mentioned earlier hotel started its operation in the year 2001-2002 with all the possible energy conservation measures as mentioned earlier. Hence all the efforts were to educate staff on energy conservation through their involvement in their respective work areas and to achieve the best standards in the hotel industry as a continuous improvement.

The hotel follows the concept of total energy management implemented through energy cell members. The unit monitors the electrical consumption of various areas on a daily basis which is analysed for continuous improvement. Copy for the same is attached. The areas are further divided into variable and fixed loads for eg. Roof fan, MCC-1 Panel which caters to toilet exhaust of guest rooms / ball room and lobby toilet exhaust fan have fixed running hours. Hence, they are placed under fixed daily consumption.

HVAC

- I The equipment output tonnage is calibrated on a monthly basis.
- II The Chiller and condenser fouling factors are checked on a daily basis and maintained below 2 deg fahrenheit.
- III In spite of upper limit of 7 deg fahrenheit by the manufacturer.
- IV Cooling Tower efficiency is checked every month and action taken accordingly.
- V Hotel follows the concept of low condenser temperature and higher evaporator temperature for optimum efficiency of chiller plant

Measures Taken For Energy Conservation

Conservation of Energy

The flash steam which comes in the return steam line due to bypass valve being opened is taken into the heat exchanger where it is used for heating the mixing tank water. the condensate water which comes out from the heat exchanger is then collected into the condensate water tank. this water along with the condensate water from steam return line is pumped into feed water tank. hence this process not only conserves steam but also increases the efficiency of boilers by preheating the water entering into the boiler also since the condensate water is already of zero ppm there is no separate need of softening the feed water.

We have installed timers and solar cells for various public areas and periphery lightings. hence there is no question of lights being unnecessarily switched on. this helps in conserving electricity.

We have installed variable frequency drives for all the ahj motors and ventilation fans. hence the speed of the motors and fans varies according to the requirement. this helps in saving the electricity.

We have 2 water inputs, 1 from bmc and 1 from borewell. the bmc water is within the permissible limits of hardness. hence a desired quantity of bmc water from the total input is directly bypassed to the ozonator which is later used only for drinking purpose. Hence this decreases the load on our water treatment plant and hence helps in conserving energy.



CONDENSATE WATER TANK

The condensate water from the return steam line is collected into the condensate tank.

Also the flash steam is passed through the heat exchanger where it condenses into water which is also collected into the condensate tank. This water is used in the feed water tank of the boiler.



PLC

The required hot water temp is set on the plc display. The steam actuator valve operates on this set point which opens and closes according to the set point hence conserving energy.



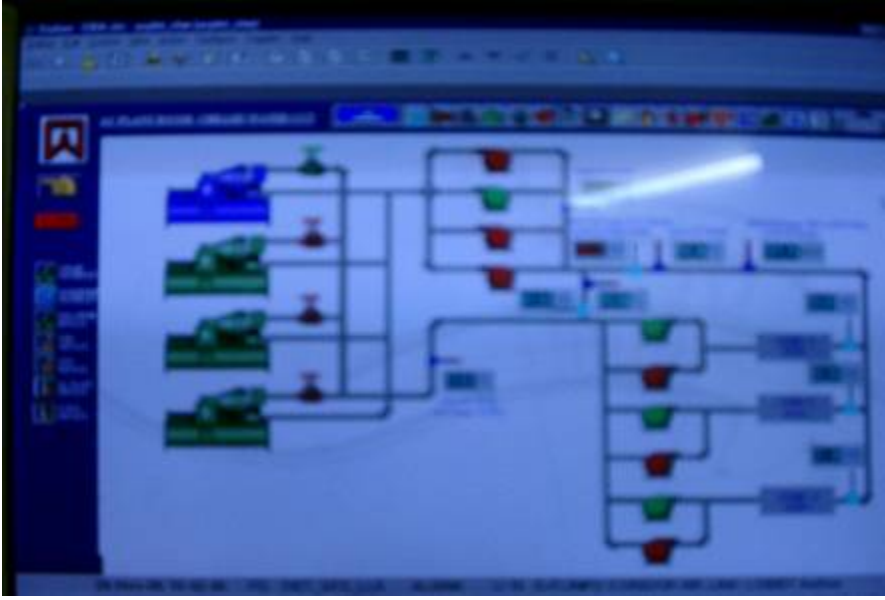
PHOTO CELLS

Photocells are provided for periphery and facade lighting which gets operated automatically based on the luminiscence of Natural Light.



VFD'S

Primary, Secondary chilled water pumps and AHU motors are provided with VFD drives which modulate the speed of the motors depending upon the load.



IBMS

We have IBMS system to monitor the status of all the engineering equipments which gives the online running status of all the equipments. The desired set point and running hours can be set according to the requirement hence conserving energy.



OCCUPANCY SENSORS

Occupancy sensors are provided in guest area toilets to switch on the lights only when they are occupied. Hence conserve energy.