

## A SAMPLE WRITE UP

### WELCOMHOTEL New Delhi

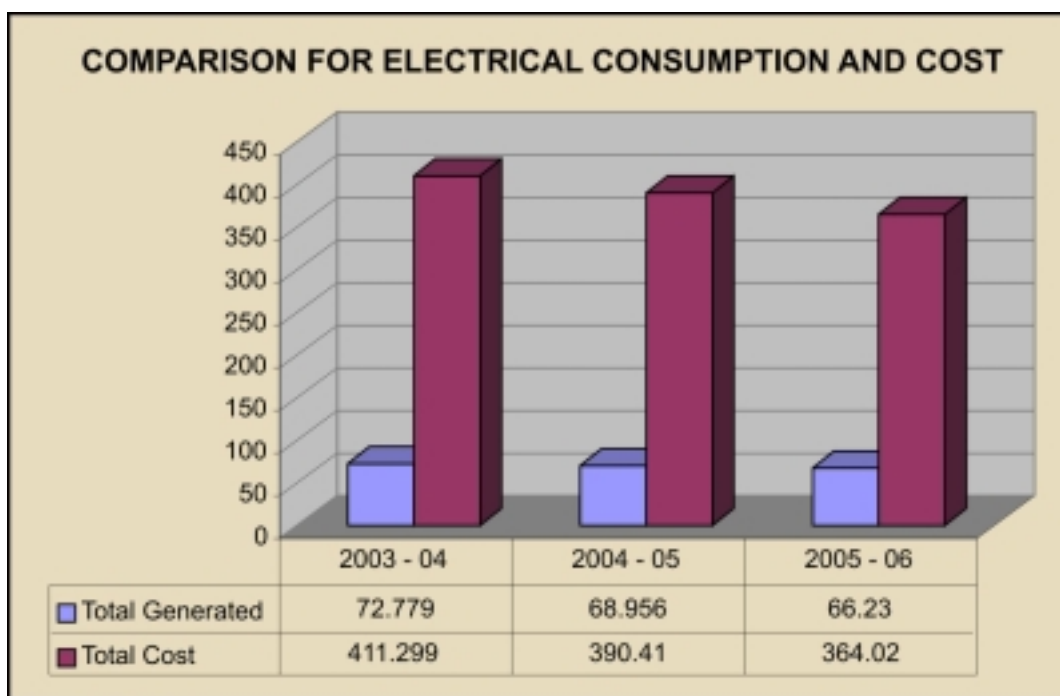
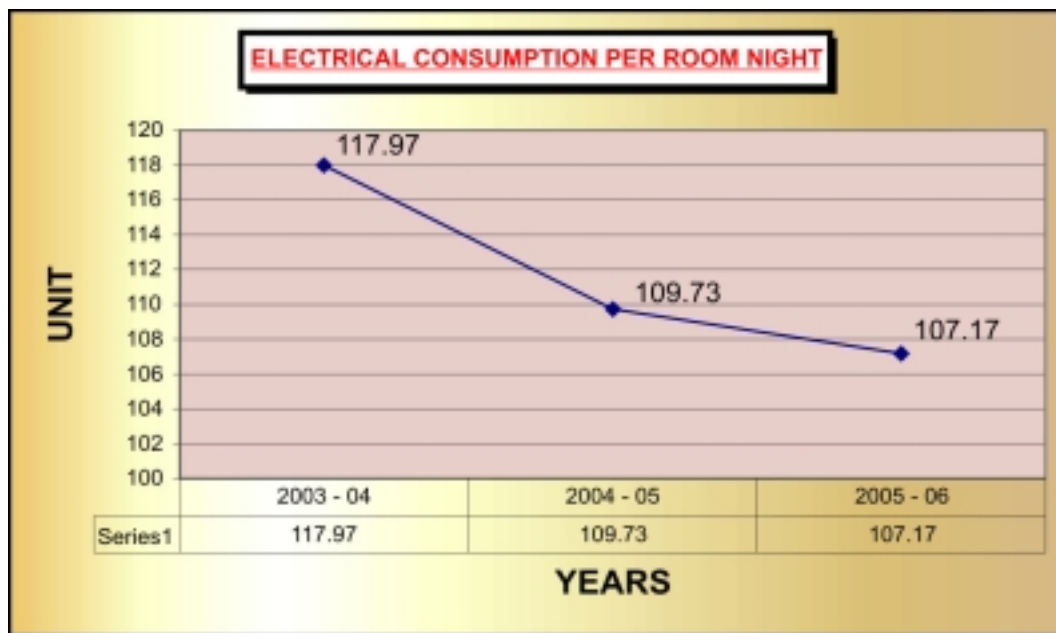
#### *Building Profile*

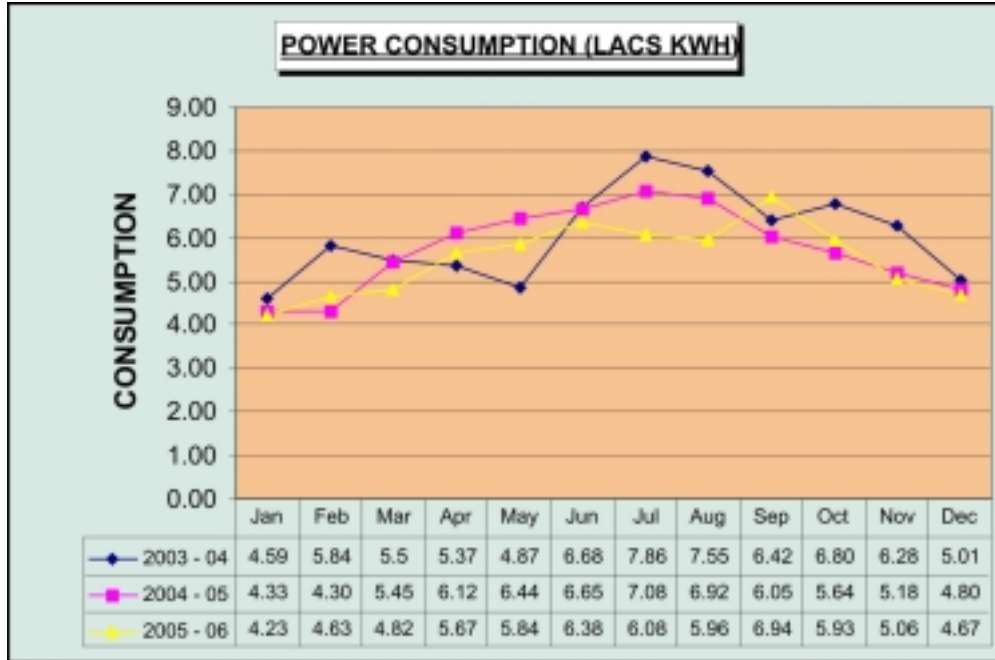
This hotel is built on 9850 Sq. Mtrs area in the heart of the city on the South Delhi .The hotel offers two specialties and one multicusines restaurants, banquet halls, boardrooms, lounge bar, swimming pool, shopping arcades & fitness center. Operation commenced from 31<sup>st</sup> December 2000. Currently it offers the Five Star Deluxe Hotel accommodation in the city of New Delhi. Part of the Corporate giant – ITC Group, WelcomHotel New Delhi is committed to bench marking practices and operational excellence in all areas including Environment, Health & Safety.The hotel offers 220 rooms as Deluxe, Executive floor, Executive suits, Executive floor exclusive and Presidential Suits. The unit has been faring very well in Environment, Health, & Safety performance. The unit is also a consistent performer in the ITC Corporate EHS Audits.As part of its ongoing endeavor towards environment protection, the hotel had achieved the **ISO- 14001: 1996** in the month of April 2004, **Greentech Environment award, Greentech safety award, Golden Peacock Environment Management award and National Energy Conservation award 2005.**



### Energy Consumption

The connected load is approximately 2081 kVA; Energy consumption in WelcomHotel is shown in the fig. below:





### ***Energy Conservation Commitment, Policy and Set up***

The WelcomHotel teams closely monitor the energy consumption (shift wise/day wise/month wise/year wise). The targets are decided by the corporate as below:

- Conservation of energy ( electricity) by 5% every year over the next three years.
- Reduction of fuel consumption by 5% every year over the next three years.
- Conservation of water by 5% every year for the next three years.
- Use of 100% Eco-friendly refrigerants.
- Reduction of solid waste by 10% over the next three years.
- Plantation of trees ( 450 trees per year for the next three years)
- Reduction of noise.
- Recharge ground water by Rain Water Harvesting.
- Charcoal consumption reduction by using accurate size & good quality charcoal.
- EMS training to create awareness amongst employees.
- Maintain "0" accident statistics.
- Achieve more than 96% rating in forth coming audit.

Not only does the top management emphasize on achievement of highest level of energy efficiency but also provides the financial supports and best energy efficient equipments.

Regular training and monthly energy conservation meetings are done to help the hotel staff understands the terms related to energy consumption.

### ***Energy Conservation Achievements***

#### **Implemented Measures**

The following energy efficient measures have been implemented in the following areas:

##### **1. Installation of Bio-Brick for ETP:**

Bio Bricks have been installed for Effluent Treatment plant to improve the aeration rate and to reduce the grease contains in the grease trap and thus in turn reducing in the running hours of Air Blower.



##### **2. Energy Management Strategy for Chillers:**

- a) Installation of VFDs : The hotel has installed 05 nos. Variable frequency drives, 03 nos. installed for Chilled water secondary pumps to vary the flow as per the load requirement of the Chiller plant and 02 nos. installed for Fresh air and Exhaust Fans to vary the CFMs as per the requirement in Main kitchen.



- b) **Modification in Chilled water control Valves** : Modification has been carried out for the FCUs Chilled water supply line as earlier hotel had three way valves which are incorporated with VFDs. These have been modified from Three way to Two way valves as per the logic control of VFDs to conserve the energy.
- c) **Installed Automation system in FCUs** : Hotel has installed automation for FCUs to reduce speed automatically during unoccupied period, System has been made so human friendly so that this can save the energy without the discomfort to the guest.

### 3. Energy Management Strategy for Electrical Systems:

- a) **Installation of LED type EXIT Signage**: Earlier hotel was having conventional type EXIT lights and those were consuming high amount of energy so these have been replaced with LED type EXIT signage which helps in reducing the electrical units.



- b) **Installation of Capacitors at Load/Feeder end**: Hotel has identified three feeders and the capacitors have been connected across these load end feeders to improve the power factor to 0.99 for following advantages:

- Reduce the feeder Current.
- Reduce the maximum demand.
- Reduction in the line losses and saving of energy through reduced losses.

***The other measures implemented are as under:***

- Energy Audit Conducted for complete unit to find energy saving potential.
- Replaced 600 nos. ordinary tube-lights with Energy Efficient Picostar T -5 tube lights.
- Replaced 480 nos. normal type of GLS bulbs with the Energy efficient CFLs.
- Replaced 1000 nos. 50 W halogen bulbs with the 35W halogen bulb by keeping same Lux level in the unit.
- Automation for the DG Wet Scrubber carried out so that this will work only when scrubber is running to avoid any extra running hours.
- 4 nos. Condenser water pumps impeller trimming carried out as these pumps were operating on high head compared to the head required by the air conditioning units.

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## ***Energy Conservation Plans and Targets***

### **1) Re-engineering and retrofit of chiller plant and auxiliary system:**

- Installing Energy Efficient Chiller with waste heat recovery.
- Installing Enthalpy based control logic system for cooling tower for operation.
- Modification of Chilled water control valves and operating secondary water pumps on constant pressure.
- Automation of chiller operation (to integrate with load side demand and ambient conditions).

### **2) Re-engineering / Retrofit of HVAC system to reduce overall thermal load:**

- Installing VFDs for selected AHUs to reduce load during lean operation/ requirement
- Recovering energy from room exhaust to pre-cool the air to TFAs.
- Replacing selected AHUs, TFAs, FCUs with Energy Efficient one.
- Replacing with energy efficient glass panes to reduce thermal load.
- Installing Timers for LT panel & dakshin AHUs
- Replacement of existing split units with TFAs for Lift Machine Room.

### **3) Re-engineering and retrofit of Electrical & lighting system:**

- Replacing lighting with Energy Efficient low heat emitting lamps
- Installing dedicated lighting stabilizer with energy saver
- Installing state of art automation/occupancy/dimmer controls
- Installing Energy efficient motors in selected locations
- Connecting additional Capacitors at Load/ Feeder end.

### **4) Retrofit of water & waste water system:**

- Modify aeration system to reduce ETP power consumption
- Replace all inefficient pumps in the ETP.
- Install zoning system to achieve best system efficiency in domestic water pumping.
- Replace existing Raw water pumps with Energy Efficient Pumps.
- Replace inefficient supply water pump for boiler feed water tank.
- Replace coldwater storage condenser water pumps.



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### ***Environment, Health and Safety***

ITC's mission is to sustain and enhance the wealth generating capacity of its portfolio of business in a progressively globalising environment. As one of the India's premier corporations employing a vast quantum of societal resources, ITC seeks to fulfill a larger role by enlarging its contribution to the society of which it is a part. The trusteeship role related to social and environmental resources, aligned to the pursuit of economic objectives, is the cornerstone of ITC,s environment, Health and Safety philosophy.