

GRAND HYATT MUMBAI

BUILDING PROFILE:

- Super Deluxe Hotel located close to the International Airport situated within a sprawling 10 Acres or 42230 Sq. M. area.
- Hotel is having 547 guestrooms including Grand club floors, three Presidential suites & 147 Mumbai's most spacious fully serviced apartment.
- The Hotel offers the best banqueting/conferencing & business centre facilities. The biggest banquet hall which is pillar less offer grand view covers 11,600 sq. ft/1075 Sq. M area.
- Five specialty restaurant, bar, lounge, gourmet store & over 100,000 Sq. Ft. of lifestyle shopping within the complex offers verity of entertainments.
- State of art SPA – A spacious facility dedicated to fitness relaxation & recreation & offers steam and sauna rooms, and whirlpool baths. Fully equipped gymnasium with personalized LCD screens for each cardio machine, two outdoor swimming pools including a children's pool, Floodlit tennis court, beach volleyball, and basketball.

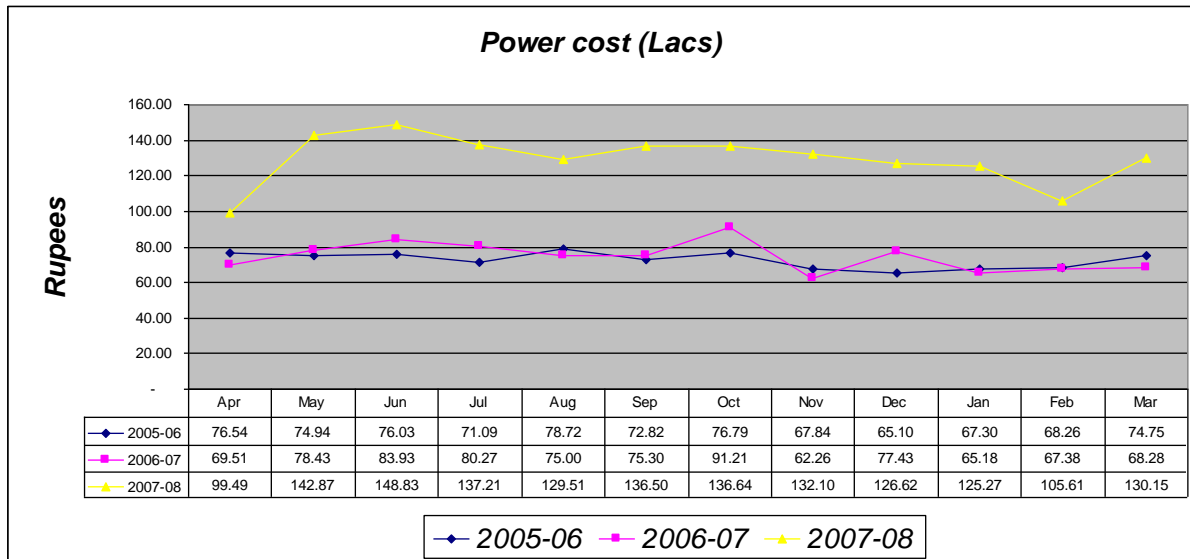
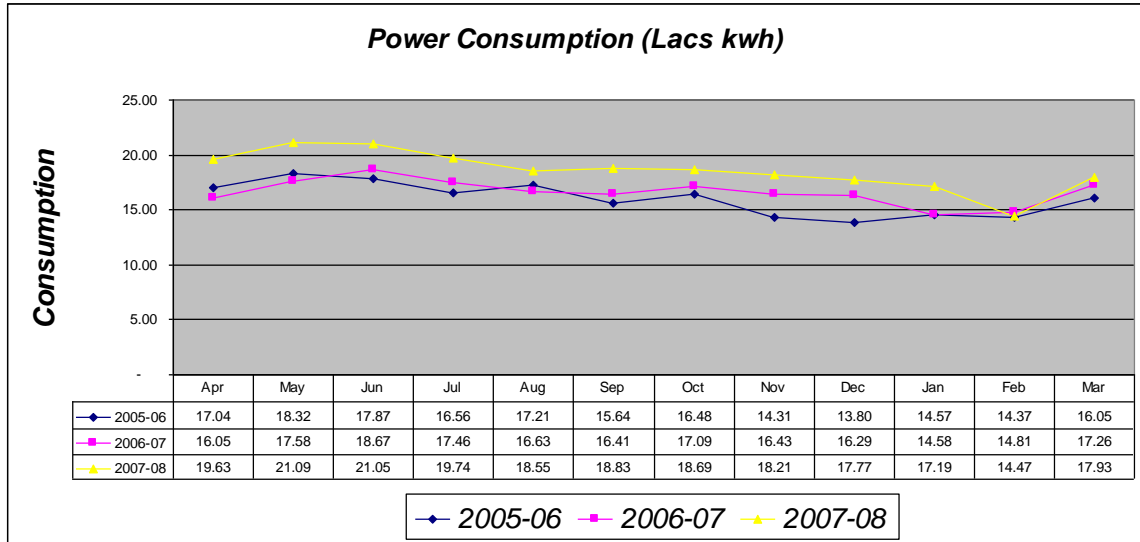


Hotel operation commenced from 17th March 2004.

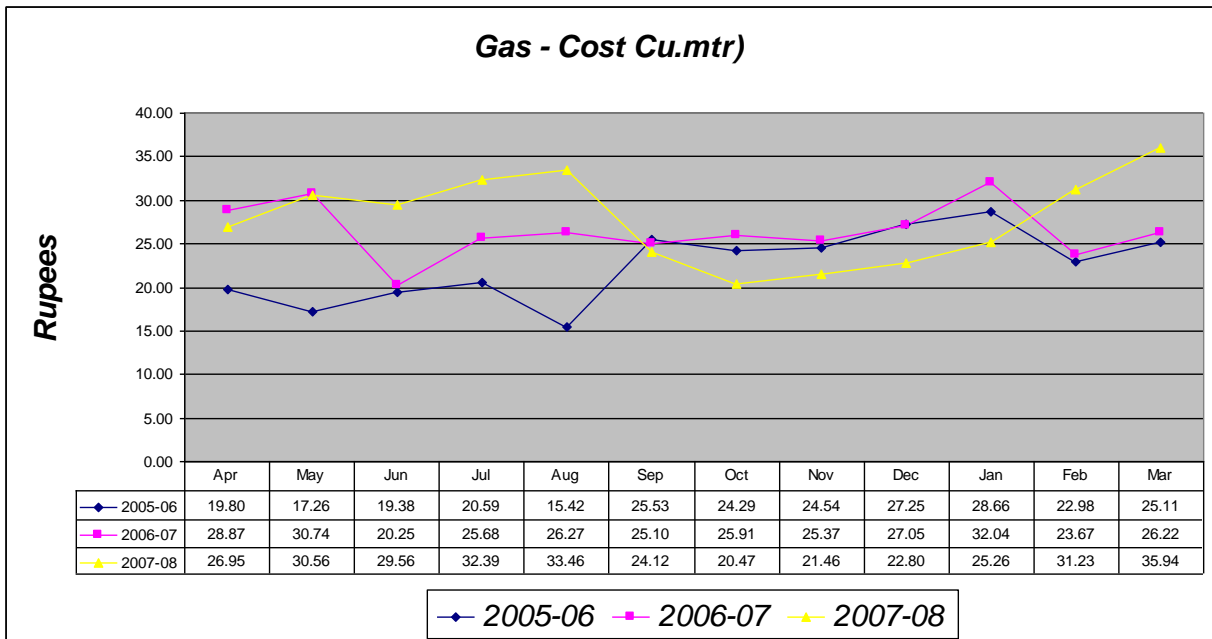
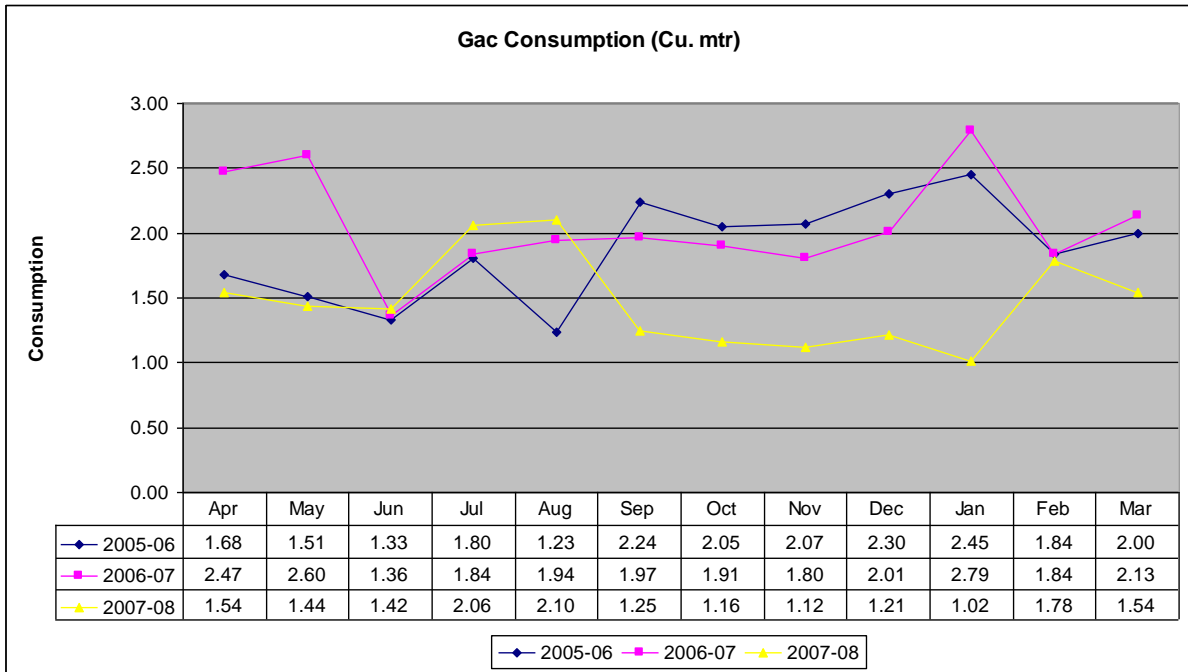
Load Increase as per Additional Operational Requirements: Details as below.

Area	Aircon TR/day in Kw	Electrical load in KWH/Day	Gas Load/Day	Water / Day	Commissioning Month
Cold room 20 A & B		144			May-06
The Garden fountain.		18			May-06
Guest relation office	38	48			Aug-06
Salon (Nov 06)	144	49			Nov-06
Area office (Dec 06)	128	69			Dec-06
New shops opened	1,080	49			Dec-06
New Training room		88			Feb-07
STP made operational		90			Mar-07
Mirch masala AHU	434	132			Mar-07
China House Lighting		993			Apr-07
China house Aircon	2,257	-			Apr-07
China house Kitchen power		1,045			Apr-07
China House Kitchen Gas			133		Apr-07
China House Water Consumption				25	Apr-07
Store for China House	203	7			Aug-07
New Cold room (21A & 21B)		144			Aug-07
Plant room new supply fan		264			Oct-07
Reservation office	81	32			Dec-07
Bakery kitchen in line ex.		53			Dec-07
Gourmet store FCU	95	3			Dec-07
Drivers Room	163	26			Apr-08
New Ice cube m/c		78		0	Aug-08
Celini AHU	407				Aug-08
Morgan Stanley office AHU	294				Aug-08
I deck AHU	407				Sep-08
ETP Up gradation		24			Sep-08
Laundry AHU	217	89			Sep-08
New shops opened(i.e. Pra, Fa India Pvt Ltd.)	325	96			Sep-08

Electricity Consumption & Cost:



Gas Consumption & Cost:



Energy Conservation Achievements

The implementation of following energy saving initiatives has resulted into an annual saving above Rs. 1.7 Cr, at present unit cost.

- **Electrical System Proposals**

1. **Energy efficient bulbs:** - Replaced 3762 nos. 12V, 50W standard Eye bulb with 12V, 35W energy efficient IRC Technology bulbs, by keeping same lux level & also reduces load on air-conditioning.
2. **Energy efficient ballast with reflective medium:** - Replaced 370 nos. of ordinary twin tube light fixture with single energy efficient ballast & reflective medium.



3. **Occupancy and motion sensors:-** Installed 62 nos. occupancy and motion sensors in back of house area where lighting circuit can be switched ON/OFF automatically, which maintain required illumination level based on the movement / sensing of occupancy.



4. **Installation of VFD:** - Installed 5 nos. of VFD's for Electrical motor load variations are regulated by variable frequency drive contributing to electrical energy saving.
5. **Energy efficient CFL:** - Replaced 208 nos. GLS bulbs with the energy efficient CFL bulbs.
6. **Provision of mechanical timer:-** Installed timers for lighting in Staircases area exposed to sun
7. **Provision of switches/Modification in Circuit:** - Provided switch control in all service floor area & back of house area where we are able to control the lighting usage as per requirement.
8. **LED signage:** - Installed LED signage at the Hotel entrance road, also in lobby/restaurant renovations LED are being replaced with ordinary lamp.

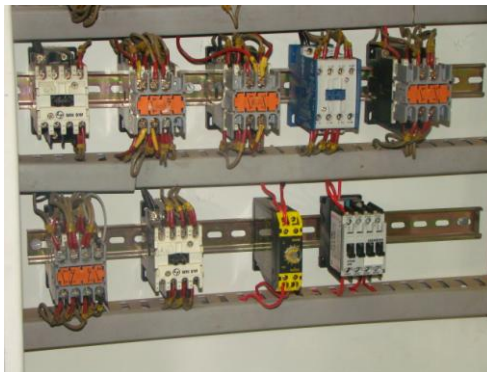
9. **Separate lighting preset:** -Set the lighting preset for cleaning & setup mode to avoid wastage of energy (i.e. Total connected load - 110 KW & Load on Cleaning /Set Up preset - 32 KW) in Banquet area.

- **Thermal System Proposals**

1. **Laundry condensate heat recovery:-** Installed 4 stage heat recovery unit due to which hot water generator operation is reduced



2. **Flue gas monitoring:-** Periodically flue gas analysis and burner tuning done in order to maintain optimize flue combustion ratio.
3. **Hot water feed pump operation:** - Pumps operation interlocked with Burner operation to eliminate unwanted running of pump.



- **HVAC System Proposals**

1. **Losses in supply air fan:-** After calculating CMW we have replaced old pulley with required optimum capacity pulley due to which results in to saving in electrical energy.
2. **Trimming impeller for primary pump:** - 1 no. Primary pump impeller trimming carried out on trail basis as these pumps were operating on higher head compared to the head required.
3. **Trimming impeller condenser pump in plant room:** - 1 no. Condenser pump impeller trimming carried out as pump was operating on higher head compared to the head required.

- **Pump & pumping System Proposals**

1. **Replacement of fountain motors:** - Replaced 14 nos. existing fountain pumps with optimal sized pumps of higher efficiency & energy efficient motors.



- **Water System Proposals**

1. **STP Up gradation:** - Recycling 100 % of STP outlet Water by upgrading the existing facility. Same water is being used for cooling tower & Gardening.



2. **Water aerators:** - Installed 450 nos. water aerators for wash basin in the guest room & 235 nos. Kitchens sink taps in Apartment & all kitchens.
3. **Auto sensor taps:** - Installed 50 nos. auto sensor taps with aerators in all the cloakrooms.

Initiatives on which work in progress

- **Electrical System Proposals**

1. **External light sensor:** -Use of electronic timer (Photo sensor) for auto switching on-off the external lights based on lux level which is giving significant saving as mechanical timer have an error of +/- 15 min. Received 28 nos. of sensors for all external DB. Installation started.
2. **Occupancy and motion sensors:** - Ordered 33 nos. sensors for the back of house area.

- **HVAC System Proposals**

1. **Primary Pump:** - Received 3 nos. primary pumps. Work will be finish till this month end.
2. **Condenser pump:** - Replacing existing 100HP pump with energy efficient 60HP pump for the centrifugal chiller. New pump received, work will be complete in till this month end.

- **Water System Proposals**

1. **ETP Up gradation:** - Up gradation work in final stage (i.e. Target date: - 10th Oct 08) where Laundry waste water can be recycle & use as fountain make up water. Expected water saving to be 120KL.



2. **Water Aerators:** - Remaining water aerators (250 nos.) for guest room wash basin.

- Rain Water Harvesting:** - Bore well digging done on a sample basis in order to check the subsoil water quality where we are planning to make rain water harvested bore well. Waiting for water quality report after that we will decide on Bore well/Ring well Harvested Method for rain water Harvesting.



- Bio System Proposals**

- Feasibility study for Waste Audit/bio gas generation plant:** - Conducted waste audit for the hotel by M/s Green Circle, as per survey we will be able to get 220-240 Cu. Meter bio gas from the waste generation which can be use for soft cooking purpose.



Initiatives are under consideration

- **Electrical System Proposals**

1. **T5 Tube light** :- Replacement of ordinary tube lights with energy efficient T5 Tube lights in all Back of house area
2. **VFD units for AHU & Car parking Exhaust fans:** - VFD for selected AHU to reduce load during lean operation/requirement. And Car parking exhaust fans operation can be regulated on through CO sensor.
3. **Energy efficient motors for TFA:** - Replacement of existing motors with energy efficient motor for identified TFA/AHU/EF/SF installation (68 nos. motor identified.)
4. **LED signage:** - Neon signage's which consume a lot of energy are being replaced with LED signage's which more energy efficient and durable.
5. **LED:** - We are planning to replace Zeon artwork light & Exit signage by LED.
6. **Energy efficient bulbs:** - 100 rooms will be renovated till Mar 09, where energy saving lamps will be used.

- **HVAC System Proposals**

1. **Heat pipe unit:** - To improve the indoor air quality (i.e. Humidity Reduction) Heat pipe installation is under evaluation. One sample unit is received, installation in progress.
2. **Chilled condensate water:** - Done a survey for using chilled condensate water from 32 nos. Treated Fresh Air Units & 12 nos. Air Handling Units. We will be able to get in between 12KL to 15KL minimum water daily which will be used for Cooling tower Make up. This water is in chilled form (12 Deg. C) plus is soft in nature which will improve chiller efficiency. Expected completion till Dec 08.
3. **Chiller Automation:** - Automatic operation of the chiller.

- **Solar System Proposals**

1. **Solar heating:** - Use of solar system for hot water generation. On 16th Oct 08 Mr. Powell from M/s Cheq. Point Dubai is coming for feasibility study on solar system for our hotel.

- **Water System Proposals**

1. **Drip irrigation system:** - Pump operation reduces as per requirement

Environmental Awareness Among Employees

1. **Green Committee:** - Green committee formed in our hotel where we have representative of each department, contributing their ideas, challenges and taking initiative for Environment/energy saving.
2. **Poster & Waste from best competition:** - Organization is organizing seminar and competition for contributors to encourage staff towards energy conservation.
3. **Employee awareness in meeting & Function:** - Energy saving presentation / poster is included in employee meeting and functions to create awareness among them.
4. **Suggestion Box:** - Suggestion box is placed in front of Human Resources department for idea, views and suggestions.
5. **Benchmark for the Property:** - Hyatt International has launched a website to analysis and compares energy consumption for each property. Benchmark figure given for each property to analysis consumption.
6. **Plant sapling:** - Planted 365 nos. saplings on Green day by employees at Borivali national park at Thane.

Hyatt's Commitment to the Environment

Hyatt is committed to design, build and manage innovative and sustainable hotels that provide our guests with authentic and comfortable accommodations, protect the natural environment and that respect the local communities in which we operate around the world.

We believe that it is our shared responsibility to combine astute asset management with a passionate commitment to genuine and strategic stewardship of the environment.

We engage and motivate our colleagues around the world to be our ambassadors, we work with our suppliers to develop and provide innovative products and solutions, and we offer our guests unparalleled service in surroundings that positively contribute to the community and the environment.

Hyatt's Environmental Goals

- **Hyatt's Environmental Strategy Will Focus on five Key Areas:**
 1. Awareness, Education and Communication
 2. Reducing our Waste and Emissions
 3. Energy and Water Conservation
 4. Purchasing
 5. Building Design and Construction

1. Awareness, Communication and Education

In collaboration with Human Resources and Operations, we will:

2008:

- Provide guidelines and support to the Green Team.
- Prepare to launch a series of appropriate training and awareness programs, including a platform to share best practices.
- Provide the field with the information and tools necessary to answer RFPs.
- Analyze opportunities to partner with global organizations in 2009 to take hotel's commitment to the environment beyond the hotel and into our communities.

2009:

- Launch employee awareness and engagement programs.
- Integrate hotel's commitment to the environment into employee hiring and orientation.
- Partner with one or more global organization(s).

2013:

- Environmental responsibility is a core part of Global Hyatt's DNA.
- Employee education and awareness is an ongoing process across entire hotel functions.

2. Waste and Emissions

In collaboration with Engineering, Operations and Food and Beverage, we will:

2008:

- Understand Hotel's waste stream:
 - Undertake waste audits
 - Provide guidelines to conduct own internal waste audits
 - Measure every hotel's monthly waste through Facilities. info
- Identify immediate opportunities to reduce waste from check-in to check-out.
- Understand carbon emissions: opportunities, risks and challenges for the hotel.

2009:

- Develop programs to reduce waste by leveraging the information gained from waste audits and Facilities. Info.
- Improve recycling and composting practices across our system and share best practices.
- Define hotel's strategy to minimize and mitigate carbon emissions.

2013:

- Hotel should have a system in place to effectively manage and reduce waste.
- Hotel should recycle and compost to the maximum extent possible.
- Should have identified and mitigated, to the extent possible, the sources of harmful emissions in our hotel.

3. Energy and Water

In collaboration with Engineering, we will:

2008:

- Build the foundation for sustainable energy and water management practices
- Phase 1: Provide tools to detect and eliminate unnecessary water and energy consumption. (April-July 2008)
- Phase 2: Provide tools to improve the energy and water efficiency of our properties. (August-Dec 2008)
- In collaboration with finance, seek to understand the ROI benefits of key sustainability capital improvements and develop a protocol to communicate these benefits to owners.
- Review SOP's for all job functions and develops SOPs to reduce water and energy waste.

2009:

- Study the current uses of renewable energy in Hyatt. Identify the most viable sources, analyze the ROI and understand where and how they can be applied more broadly.

2013:

- Hotel's energy and water use intensities are the lowest in the industry.
- Hotel is effectively employing renewable energy sources based on a combination of ROI benefits and environmental benefits.

4. Purchasing

In Collaboration with our purchasing, we will:

2008:

- Develop criteria for sustainable purchasing
- Identify a minimum of 20 operational products that support hotel's goal of purchasing products that are recyclable, biodegradable, reusable and free of toxins
- Develop a program to recycle FF & E items that are removed from the hotel
- Review all transportation methods for the delivery of products to the hotel

2009:

- Identify and eliminate 60% of the products that hotel purchases that are disposable and not biodegradable.
- Review liquidation contracts to ensure that appropriate recycling practices and waste management practices are used during liquidations.
- Implement FF&E recycling programs.

2013:

- 80% of hotel's products have a sustainable element.
- 50% of purchased FF &E materials are manufactured from recycled materials.
- 100% of suppliers are aware of hotel's sustainability guidelines and are working towards hotel's goals.

5. Building Design and Construction

In collaboration with hotel's project team, we will:

For Building New Design and Construction:

2008:

- Understand the best sustainable design standards.
- Revise hotel's existing Design Criteria to include the most relevant and comprehensive sustainable standards.
- Review technical service agreements to ensure that hotel's sustainable Design Criteria is addressed

2009:

- All new construction will be compliant with Hyatt's design standards

2013:

- Hotel will be engaged in the new sustainable design criteria

For Renovation of Existing Properties:

2008:

- Determine the sustainable design standards that should be used for hotel renovations and incorporate them where applicable.
- Revise design recommendations and minimum standards for more sustainable renovations and make them available to owners

2009-2013:

- Hotel will work with owners to apply sustainable design standards to the fullest extent possible