BEST ENVIRONMENTAL PRACTICES FOR THE HOTEL INDUSTRY

CANDLES HOTEL

Aqaba, Jordan

HOTEL IN BRIEF

The Alcazar Hotel is a 2-star hotel located in the centre of Aqaba. The hotel was established as a family business in 1979 and is managed by its owners. The hotel has 132 rooms, two restaurants, one kitchen, one pool and one laundry. The hotel has a total of 33 employees but the management complains from the high employee turn over. The environmental audit was conducted with the general manager, Mr. William Sawalha, on July 7, 2008.

MANAGEMENT CONSIDERATIONS

In spite that no environmental management system is established in this hotel, the management is motivated to improve its current environmental and economic performance through the application of cleaner production.

According to the manager, the hotel is easily affected by environmental problems. Indeed, the entrance is cleaned four to five times a day because of the dirt and dust that accumulates with wind. Moreover, some equipment such as the laundry machines and dryers are quite old and in a bad state. The hotel management also deplores the lack of care by the staff concerning for example safety procedures.

The hotel management wishes to apply the Guide of Best Environmental Practices (BEP) for the Hotel Industry mainly in order to reduce costs related to water and energy consumption. This should be achieved through staff training, good housekeeping measures and investments in equipment allowing significant annual savings.

ENVIRONMENTAL ASSESSMENT

The hotel uses brackish water from a well for toilet flushing and the pool (800 m^3/year), a mix of brackish water and water from the municipal network for the showers and water from the municipal water network for all other purposes (drinking, kitchen, laundry, etc.). The brackish water is softened prior to utilization in order to reduce the content of total dissolved substances (TDS). The pool water is treated with chlorine and is filtered continuously by two sand filters. The filters are backwashed eight times per day and the backwash water is sent to the sewer. A lot of water is needed to fight cockroaches and rats through flushing hot water with chlorinated (3 ppm) in the pipes. The management also reports misuse by guests. Until now there has been no implementation of water saving measures because most of the water is free (brackish). There are no mixers on taps and showers as shown in Figure 1. Toilets are single flushed. Water consumption in each department is measured to identify hot spots (pool, kitchen, etc.).

Fig. 1: *room taps without mixers*

Air conditioning in the rooms and hotel departments is provided by modern split units. Lighting is provided by fluorescent lamps instead of classic light bulbs. When a guest leaves his room, the power is switched off by the reception, thus saving energy. The kitchen refrigerators situated in front of the ovens have thus a reduced cooling efficiency. Hot water for domestic use is produced using two diesel (low quality diesel with high sulphur content) boilers as illustrated in Figure 2. The water pipes in the boiler room are not insulated but the hot water lines throughout the building are self-insulated (polyurethane). Maintenance of the boiler is undertaken annually, but its efficiency was never measured. Heating of the building is provided by the same split units that cool the hotel during the hot season. According to the manager, double-glazing is too expensive. Heat for cooking and for the provision of hot water in the kitchen, in the laundry and in the restaurant (buffet) is provided by the burning of liquefied petroleum gas (LPG) cylinders. Electricity is believed to be the most important energy consumption as it provides cooling, heating and lighting.

Fig. 2: *diesel boiler*

ACTION PLAN

Environmental objective	Action & means	Expected results	Investments	Annual savings
Reduce water consumption in rooms without cutting on guest's comfort, enabling also to tackle calcification problems in pipes	▪ Install flow regulators on the showerheads in rooms in order to decrease consumption from 18 to 8 litres/minute ▪ Install water-reducing filters for taps in rooms in order to decrease consumption from 18 to 8 litres/minute	▪ Reduction by about 50% of the shower flow rate ▪ Reduction by about 50% of the tap flow rate ▪ Reduction of calcification problems in pipes	4'600 JOD	36'100 JOD
Reduce the gas, electricity and water consumption of the hotel by replacing the old washing machines	▪ Install two new energy-efficient laundry machines	▪ Reduction of electricity, gas and water consumption ▪ Reduction of wastewater generation	710 JOD	250 JOD

LESSONS LEARNED

The hotel management is aware of environmental issues and of the economic benefits that environmental action can bring in the water and energy domains. If some measures have already been taken by the hotel to reduce energy consumption (energy-saving light bulbs), nothing has been done yet to reduce water consumption. Economic benefits can be achieved despite the fact that most water is free (brackish aquifer). Indeed, by saving water for showers and taps, money is saved on diesel consumption. However, other domains covered by the BEP Guide such as waste and purchasing policy are not considered by the management as relevant.

Awareness raising initiated by the hotel management is essential. Indeed, the hotel staff are the 'greening actors' as they implement the eco-efficiency measures on a daily basis. Water and energy issues should be addressed in priority, followed by waste management and logistics, and finally the purchasing policy and the noise as well as air quality and landscape integration. It must be noted that many measures have positive effects in more than one environmental domain. Moreover, all measures implemented by the hotel should be communicated to the local and foreign guests who are becoming ever more aware of environmental protection. This communication can be used as a 'green marketing' tool. The ultimate goal can be an environmental management system (ISO 14'001 or EMAS) or an eco-label.

FOR FURTHER INFORMATION

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*The Guide of Best Environmental Practices for the Hotel Industry was developed by **sba** with the participation of the Royal Scientific Society. This Guide presents eco-efficiency measures adapted to the hotel industry of the Mediterranean countries in order to reduce their impact on the environment. These measures are built on **sba**'s experience in the field of environmental management. Cost-efficient and easy to implement, they constitute the first step towards sustainable tourism.*