

Water waste and its management

Dr. Amiya Kumar Sahu details how hotels can manage waste water to curb water wastage

Water conservation is an issue of overpowering importance in the hospitality industry. Especially since the hospitality industry is known to consume a lot of water. For example, the average per capita water consumption in a typical five star hotel is 1500 litres/guest room/day. Due to the increasing scarcity of good quality water and its high cost, it is necessary to manage water properly. This can be done by conservation of fresh water and reuse of waste water, after treatment.

In hotels, water consumed in guest rooms, kitchens, laundry, wash rooms and plant utilities can be conserved by installation of the automatic water flow control system, which can reduce a substantial amount of waste water. Besides, water is also used for floor washing, boiler blow down, swimming pool and swimming pool filter backwash, which has to be treated.

Common treatment approaches

The most common treatment methods in hotels are generally based on aerobic biological processes (activated sludge process with sludge recycle) or a combination of aerobic, biological and chemical processes. A typical waste water treatment scheme consists of the aeration tank, secondary clarifier, pressure sand filters and chlorination. Some of the smaller hotels have septic tanks for toilet waste treatment. Treated wastewater should be reused to irrigate green areas, for washing floors and in toilets.

Rainwater harvesting is another approach that can be used for water conservation and should be effectively practiced in hotels. Effluent water can be municipal, tanker or bore-well water. Therefore, it should be analysed to determine treatment, which could be filtration, softening, reverse osmosis, organic scavenger or a combination of these.

Each region has its own contaminants. In the southern parts of India, there is generally more dissolved iron and excess oxygen. In Andhra Pradesh one can find mica content. In northern India, water contains organic matter.

The eco-friendly Orchid route

The practices followed by The Orchid hotel for eco-friendly commitment are:

Sewage treatment plant

Waste water is recycled by using the latest technology. Waste water and sludge are treated in this method. The treated water is then reused in air conditioning and gardening

Air scrubber for boiler

To reduce air pollution, an air scrubber is installed. Recycled water from the sewage treatment plant (STP) is utilised in the air scrubber. A similar type of equipment, installed in the kitchen exhaust system is called air washer and works on the same principle.

Ozone for waste water and effluent treatment

Waste water treatment with ozone, helps reduce Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD). It also helps deodorise, decolourise and disinfect the waste water. As ozone is a very powerful oxidising agent (next only to fluorine), it oxidises very effectively in waste water treatment.

The half-life of ozone in water is only 20 minutes (approximately). Hence, there is no residual toxicity in the treated water. Thus, it is termed as one of the most environmentally friendly treatments for waste water and sewage.

As ozone also has a micro-flocculent property, it aids filtration, which further reduces turbidity. The treated water can be reused or discharged into the sewage, as it meets the pollution control norms.

The Taj way

In case of The Taj group, it has sewage treatment plants for waste water management. The treated water is used for gardening as well as in cooling towers.

Taj also uses the treated water for low end uses such as toilet flushing in staff areas. Initially, it was forced to construct sewage treatment plants due to shortage of water. It also helps reduce the use of tanker supplies and thus, the cost of water.

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Link: <http://www.hospitalitybizindia.com/detailNews.aspx?sid=28&aid=533>