

*This issue of Update spotlights one of the most prestigious assignments of water recovery & reuse for the world's largest & Asia's first 'LEED\* Platinum certified Green Hotel' – ITC Gardenia, Bengaluru. It also features the notable contract awarded by Maruti Suzuki that incorporates waste water treatment & recycle solutions for their project at Manesar, Haryana.*

## Water Treatment, Recovery & Reuse Solutions for ITC Gardenia

ITC has always been at the forefront of developing hotel properties that are a standard in luxury with a unique environmental focus, making them the first brand of 'green' chain luxury hotels in India. The crowning glory for this chain is unarguably the ITC Gardenia, Bengaluru - a 292 luxury room and suite property. The extensive greening of the land with its vast gardens meant a large requirement of water; a resource already scarce & expensive in Bengaluru.

Ion Exchange (India) Limited has met this unique requirement by providing ITC Gardenia a custom-fit solution for water recovery and reuse. The scheme includes a 200 m<sup>3</sup>/day sewage treatment plant & recycle system and a 200 m<sup>3</sup>/h effluent treatment plant & recycle system for treatment of grey water (from kitchens, bathrooms, etc). For a property that adopts the best practices of technological engineering in its construction, Ion Exchange was the obvious choice.

The waste water generated from the hotel is collected and treated in a state-of-the-art unit that employs fluidised media reactors. This treated waste water is then polished and disinfected through a



Sewage Treatment & Recycle

system of filters to ensure that the treated water is of a quality that can be recycled for secondary use.

While sewage is treated through this process and reused for make-up to the cooling tower and for landscaping, the grey water which is collected separately is treated, polished and used for water bodies around the property.

ITC's keen planning in reducing carbon footprint extended to the use of power-saving devices including variable-frequency drives for all rotating equipments to ensure that every bit of energy and water is conserved. This has, additionally, guaranteed a very low water footprint and sound economics. Substantial savings in utility bills is a bonus benefit which proves that true environmental protection programmes can be sustainable and make good economic sense as well.

These measures using frontier green technologies in water recycling, energy and waste management have enabled ITC Gardenia to be the world's largest 'LEED\* Platinum Rated Green Hotel' and also the first hotel in Asia to achieve this recognition.



Cooling Tower

## Waste Water Management for Maruti Suzuki

Ion Exchange is close to commissioning a contract for waste water/sewage treatment and recycle for Maruti Suzuki's expansion project at Manesar, Haryana.

The contract, for 3600 m<sup>3</sup>/day effluent treatment and recycle plant and 370 m<sup>3</sup>/day sewage treatment plant, furthers both companies' commitment to environmental stewardship.

The Manesar manufacturing facility has trusted Ion Exchange repeatedly for water & waste water management during its periodical expansions.

The recent expansion called for optimum utilisation of resources - given their limited availability, high costs and associated consumption & discharge norms. A combination of the expertise of its various business units enabled Ion Exchange to offer solutions that specifically & totally addressed different aspects of the waste water treatment process at the plant.

The effluent treatment plant consists of activated sludge process and filtration followed by recycling plant which includes ultra filtration, stage 1 and stage 2 reverse osmosis and mixed bed ion exchangers. The sewage treatment plant consists of fluidised media reactor, sand and carbon filtration.

The high quality water from the reverse osmosis and mixed bed systems will be used for paint shop and other manufacturing purposes.

Potential cost saving and emission reduction areas have been identified & solutions implemented, to ensure the best possible conservation of water for recycle & reuse.

The Ion Exchange - Maruti Suzuki association goes back a long way, with projects successfully executed for water, effluent and sewage treatment, including the first ever effluent recycling plant based on reverse osmosis in the automobile sector, in 1997. Operation services have also been provided to Maruti for several years.

### Effluent & Sewage Treatment and Recycle Plant at Maruti Suzuki, Manesar, Haryana

Effluent Treatment Plant



Recycle Plant



Sewage Treatment Plant

