Forbes Pro's World-Class Water Solutions & Zero Discharge Plants

The principle of “zero discharge” is recycling of all industrial wastewater. This means that wastewater will be treated and used again in the process. Because of the water reuse wastewater will not be released on the sewer system or surface water. The concept of zero discharge system is to ensure essentially no discharge of pollutants into the environment, recovery of water gains primary importance.

Ministry of Environment, Forest and Climate Change has issued norms towards the water consumption limit of the Thermal Power Plants. It states that new plants installed after 1st January, 2017 shall have to meet specific water consumption up to maximum of 2.5m3/MWh and achieve zero waste water discharged.

ZERO DISCHARGE PLANTS

Waste water is collected in the equalisation pond and passed trough series of process equipments. Harmful organic/colloidal contents in the water are separated out in the first phase of treatment and the inorganic content in the water are separated in the second part of the process. Ultra filtration technology is used to remove harmful suspended matter in the water which can cause damage to reverse osmosis membrane. Series of reverse osmosis units are used to recover water from the waste water. The product water is better in terms of quality than the raw water to the plant.

The water recovered in the process is 90- 95 % of the inlet water to the plant. It means only 5-10 % water is the waste water which is treated further for evaporation.

The remaining waste water is treated using different technology for converting it to solid waste which can be used for land filling activities.

Forbes Pro Water Projects also uses latest technologies such as Membrane Bio Reactor to recycle the sewage water and industrial waste water from the plant to recycle back to process use. Forbes Pro Water Projects has installed and commissioned the plant based on these technologies successfully In India.

Tata Motors, Pantnagar - Capacity - ZLD-100m3/hr-Filtration, 3 Stages RO

CEAT Limited - Capacity - ZLD-UF & RO - 40m3/hr

FINANCIAL ADVANTAGE

Zero liquid discharge minimizes the consumption of freshwater as the cost of treated water is 50% less than the fresh water intake; therefore by reuse of wastewater it helps relieve freshwater availability limitations in places where it is scarce or expensive thus considerable savings are realized and that resulted in a moderate payback period. In addition, elimination of liquid discharge also helps towards the need to comply with increasingly stringent environmental restrictions.

ENVIRONMENTAL IMPACT

Purchased water, wastewater treatment and disposal costs are significant; thus, savings associated with minimized new water requirement and wastewater flows can justify capital expenditures to minimize. In the case of new constructions, zero liquid discharge can save money on real estate costs, since location near a suitable water resource would not be necessary.