DISTILLERY

AWT bagged two orders of Water treatment plant (WTP) and Wastewater treatment plant (WWTP) at a distillery located at Lusaka, Zambia.

AWT proposed solutions with a combination of conventional and advanced technologies. In the WTP project, we have provided state of the art Ultra Filtration (UF) membranes, Reverse Osmosis (RO) membranes and Demineralization (DM)plant. The WTP shall produce a water of conductivity < 1µs/cm. In a distillery, WTP is the backbone of distillery throughput, production volumes and revenues. By envisaging a UF -RO -DM based process, we have envisaged a best in class system.

The WWTP is based on distillery biodigester process, wherein a Continuous Stirred tank reactor (CSTR) is provided. The system shall treat the critical spent wash generated from the molasses/grain-based feed distillation process. The spent wash is categorized as “difficult to treat “organic waste with a Chemical oxygen Demand (COD) value of 2.0-2.5 lakhs ppm. The wastewater plant shall achieve 60-70% reduction in pollutant loads for further usage in bio feed/sugarcane plantation. In WWTP, pollutant loads were earlier removed by conventional processes such as bio composting which leads to higher footprints and lesser treatment efficiencies. By using Biodigester viz. CSTR, anaerobic degradation is enhanced which leads to better design and cost savings in downstream process.

Features of the projects are listed as below

- State of the art treatment process
- Lesser footprint
- Treated water in WTP shall be conducive for ethanol/spirit dilution
- Enhanced organic degradation in Biodigester anaerobic treatment
- Treated water and sludge from WWTP shall be used as natural fertilizer