Optimization of wastewater treatment processes

Wastewater treatment plants (WWTP) are common practice in Germany. When the plant is designed, discharge values form the basis for the requirements as the plant is subject to the emission limit requirements for the discharge of treated wastewater into the receiving water. Hence, most plants run in their original design without any attempt to optimize them. Nevertheless, the analysis often shows a potential increase in wastewater treatment efficiency as well as possibilities to reduce operating costs.

Focus of activity

- Optimization of purification processes of rain overflow basins and of WWTP
- Design of premixed water treatment
- Optimization of the WWTP intake
- Integrated control concepts for sewer system and WWTP

Services

- Analysis of purification process in order to optimize performance and to decrease operating and energy costs
- Planning of measures to reduce pollution load into the water bodies (e. g. rakes, sieves, ground filter basins)
- Simulation of biological processes in treatment plants (e. g. SIMBA)
- Integrated simulations and analysis of sewer system and WWTP (HYSTEM EXTRAN or KOSIM, SIMBA)
- Hydraulic simulations ; preparation of hydraulic longitudial sections
- Multidimensional flow simulation of overflow basins, secondary clarifiers, etc. to calculate the actual retention performance
- Design of WWTP measuring phases and measurement concepts for discharge points
- Analysis and evaluation of measurements
- Assessment of emissions

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