# BIOLOGICAL WASTEWATER TREATMENT AS A PART OF ENVIRONMENTAL PROTECTION IN THE CZECH REPUBLIC

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The Czech Republic belongs to the three major watersheds, draining its area into the North, Baltic and Black Seas and practically all its more significant watercourses run into its neighbouring countries. Consequently, water resources in the Czech Republic are limited and dependent on atmospheric precipitation. As there are no significant water streams flowing into the Czech Republic, all pollution in rivers leaving the Czech borders originates from "domestic" sources and contributes to the pollution of the rivers in neighbouring countries and finally in the receiving seas. Thus the water quality management in the Czech Republic automatically gains an international dimension. That is also the reason why the Czech Republic is involved in most major European projects on water pollution control. The Czech Republic is an active member of commissions for protection of three important European rivers, i.e.,:

- International commission for the protection of the Elbe river
- International commission for the protection of the Oder river
- International commission for the protection of the Danube river

Therefore the lecture will explain the importance of water quality control for the Czech Republic from both domestic and international aspects. The Czech legislation concerning wastewater treatment will be described with a stress given to the explanation of national effluent and environmental (water) quality standards. The legislation will be discussed in the context of the acquis communautaire. The lecture will also describe the basic features of state environmental policy in respect to water quality control. The current level of wastewater collection and treatment in the Czech Republic will be highlighted and compared with the situation in other European countries. The principles of biological wastewater treatment processes will be clarified with a brief survey of microorganisms involved. Most characteristic wastewater treatment technologies will be briefly described and demonstrated at examples from recently built wastewater treatment plants in the Czech Republic. The lecture will also touch the problems of biomass separation form treated wastewater and separation problems typical of activated sludge. Unit operations of the so-called tertiary treatment including the requirements for water reuse will be explained. Future tasks of the Czech water management policy in the field of sewerage systems and wastewater treatment have been summarized. The lecture will also explain the necessity of the involvement of the Czech Republic in the international information exchange scheme including the membership in international professional organizations.