



Evaluation of efficiency analysis of waste water treatment plants and applications in Denizli

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ABSTRACT

The aim of this study was to identify and analyze operational performance of Denizli waste water treatment plant (DWWTP). This plant treats mostly domestic-industrial waste water received from residential and industrial areas in Denizli. DWWTP has an active sludge unit. At intake and outflow; pH, temperature, conductivity, biochemical oxygen demand (BOD), chemical oxygen demand (COD), total nitrogen and total phosphate are analyzed on a routine basis. Besides, measurements of dissolved oxygen, suspended solids (SS) and active sludge volume index (SVI) are carried out. At the outflow of the plant, BOD and COD concentration values can change in the intervals of 45–100 mg/l and 5–15 mg/l respectively and these values comply with the limit values stated in water pollution controlling regulations (WPCR). SVI average value is approximately 200 ml/g in the aeration tank. 'Using the output water for irrigation' was planned during the project period, therefore the efficiency analysis must be conducted accurately and in conjunction with this, the outflow water quality must be controlled regularly.

Keywords: Waste water treatment; Efficiency of treatment plant; Outflow parameters; Irrigation water criteria

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