

EVALUATION OF WASTEWATER QUALITY DISCHARGED IN URBAN SEWERAGE OF BUCHAREST USING WATER QUALITY INDEX

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Abstract. The paper presents the evaluation of the wastewater quality evacuated by several economic agents (a car wash, a sweets producer, a bank, a hotel, a research institute and a provider of automatic access systems) in the urban sewerage of Bucharest Municipality.

The study was conducted over a five year period (2013-2017) and the parameters analyzed for the characterization of wastewater quality were in accordance with in force legislation [1].

After comparing the obtained results with the maximum admissible value [1] it was found that at three of the six economic agents evaluated (bank, hotel and research institute) there were no exceedances of the maximum admissible limits (MAV) for the studied indicators.

At car wash company the wastewater evacuated exceed MAV at chemical oxygen demand parameter (COD). The problems were detected at sweet producer and provider of automatic access systems, the quality of the wastewater indicated exceedings at COD, biochemical oxygen demand, zinc, suspended matter, extracted substances in organic solvents, total phosphorus. In order to establish wastewater quality the Water Quality Index (WQI) were calculated [2]. Regarding sweet producer the value of WQI was situated in the

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range 62.4 to 92.71 (marginal to good quality). For provider of automatic access systems the WQI values of wastewater were between 74.17 and 85.5 values (fair to good quality).

WQI is a useful tool for evaluation of wastewater quality, not only for drinking water or groundwater quality.

Keywords: wastewater; WQI; maximum admissible limits.

References

[1] NTPA 002/2005, Norms regarding conditions of wastewater evacuation in sewerage networks of localities and directly in sewage treatment plants, part of Government Decision no.188/2002 for the approval of norms regarding conditions of wastewater discharge in the aquatic environment.

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