



PRIMJENA LAMELNIH TALOŽNIKA U PRIPREMI VODE ZA PIĆE APPLICATION OF LAMELLED SETTLERS IN PREPARATION OF FRESH WATER

SAŽETAK

U radu je opisan problem sistema vodosnabdijevanja koji u procesu tretiranja vode za piće proizvodi otpadne vode nastale pranjem filtera i kontaktnih bazena. Od ukupne količine vode tretirane u kontaktnim bazenima i filterima, za pranje filtera i taložnika utroši se 23,9 %. Vodu zagađenu pranjem filtera i taložnika nije dopušteno ispuštati u kanalizaciju bez prethodnog tretmana. Primjenom lamelnih taložnika za prečišćavanje, otpadna voda bi se vraćala u sistem vodosnabdijevanja, uz minimalne troškove tretmana. Time bi se povećao kapacitet sistema vodosnabdijevanja i smanjio dodatni rizik zagađivanja ispuštanjem u okolinu ili u kanalizaciju. Istraživanja su ukazala na optimalna rješenja i ekonomsku opravdanost primjene lamelnih taložnika.

Ključne riječi: lamelni taložnik, pranje filtera, troškovi tretmana, voda.

ABSTRACT

This paper describes a problem of the water supply system in which, during the treatment (processing) of drinking water, waste water is created from washing filters and contact basins. From the total volume of water treated in contact basins and filters, 23.9% is used for washing filters and settling basins. Waste water created by washing filters and settling basins can not be drained into the sewage system without prior treatment. By using lamella settling basins for filtering, waste water would be returned into the water supply system, with minimal treatment costs. This would increase the capacity of the water supply system and lower additional risks of pollution when draining into the environment or sewage. Research has indicated optimal solutions and economic justification for the application of lamella settling basins.

Key words: lamella settling, treatment costs, washing filter, water,

1. UVOD

Sistem vodosnabdijevanja (vodovod) je skup hidro-tehničkih objekata, uređaja i instalacija kojima se vodi iz izvorišta poboljšava kvalitet i prenosi se do mjesta gdje se neposredno upotrebljava. Planiranje, građenje, upravljanje i održavanje sistema vodosnabdijevanja složeni su tehnički i privredni postupci.

Potrošnja vode u domaćinstvu zavisi od načina stanovanja, raspoloživosti i cijene vode, načina mjerenja potrošnje, životnog standarda i navika stanovnika i prema nekim procjenama dnevna potrošnja vode se kreće u granicama od 50 do 200 litara.

Proučavanjem voda i njihovog kretanja na površini zemlje bavi se hidrologija kao posebna naučna disciplina. Voda kao glavni sastojak zemljine površine (pokriva tri njezine četvrtine) je prirodni spoj vodika i kisika i to je kisikov oksid. Procesima kretanja i kruženja vode u tlu bavi se hidrogeologija, a u atmosferi

1. INTRODUCTION

Water supply system (water system) is a collection of hydro-technical facilities, devices and installations where quality of water from springs is improved and transferred to the place where it is used directly. Planning, construction, operation and maintenance of water supply systems are complex technical and economic processes.

Water consumption in the household depends on the way the apartment, the availability and price of water, the method of measuring of consumption, living standards and habits of the population and according to some estimates, daily water consumption ranges from 50 to 200 liters.

Hydrology as a separate scientific discipline studies the waters and their movement on the surface of the earth. Water as the main component of the earth's surface (covering three-quarters of its) is a natural compound of hydrogen and oxygen, and it is oxygen oxide. Process