

POSSIBLE NEGATIVE CONSEQUENCES OF THE SECONDARY AIR CONTAMINATION ON THE QUALITY OF ACCUMULATED DRINKING WATER

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ABSTRACT

Říhová Ambrožová, J., Hubáčková, J., Čiháková, I.: **Possible Negative Consequences of the Secondary Air Contamination on the Quality of Accumulated Drinking Water**

At the present time when requirements on quality of drinking water are increased, it is necessary not only to put stress on technological processes used in its preparation, but also there is a need to secure that water is distributed even to the consumer in that quality as it leaves a water station. Through a systematic surveillance of water-supply companies within the framework of biological audits it has been found out that the important points in a distribution network where the quality of water is deteriorated are the water reservoirs. Deterioration in quality of accumulated water is jointly caused by elements of technological, constructional and biological nature. The secondary air contamination has a substantial influence on the creation of biofilms on walls and the presence of microorganisms in accumulated drinking water. To this end, a water twin-compartment reservoir has been systematically evaluated during operation, cleaning meantime and before cleaning. The results of hydrobiological and microbiological analysis have confirmed the input of particles and microorganisms through air, their presence in surface level of accumulated water as well as scrapings from accumulation walls. The surveillance considered also the situation without a fixed filter unit, without door lining etc. On fixing a tested filter system into ventilation duct the risk of air contamination was lowered to minimum.

Key words: waterwork plants, drinking water quality, biofilm, secondary air contamination