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 con-
ﬁrmed 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