

Sawiniak, W., Kotlarczyk, B., Nadolska, K. Efficiency of Manganese Compound Removal from Surface Water by Treatment in Contact Filters. *Ochrona Srodowiska* 2011, Vol. 33, No. 3, pp. 59–61.

Abstract: Manganese compounds that occur in surface water are virtually not removed during coagulation. The treatment train applied in the Czaniec Waterworks, which includes contact filtration and the use of aluminum sulfate, practically fails to remove the manganese compounds that periodically occur in the impoundment lake, even if their concentration amounts to 0.6 gMn/m^3 . Full-scale tests have shown that potassium permanganate doses of $0.7 \text{ gKMnO}_4/\text{m}^3$ applied before the contact filters (with aluminum sulfate) provided efficient removal of manganese compounds from the level of $0.140\text{--}0.605 \text{ gMn/m}^3$ to the admissible value of 0.05 gMn/m^3 . Experience gained during one-year observations has shown that the size of the potassium permanganate dose depends not only on the manganese compound content, but also on the concentration of the other lake water components. The inclusion of potassium permanganate into the treatment train eliminated the necessity for temporary discontinuation of the treatment process as a consequence of the high manganese content of the water entering the plant.

Keywords: Impoundment lake, surface water, manganese removal, contact filter, potassium permanganate.