

Effect of backwash and powder activated carbon (PAC) addition on performance of side stream membrane filtration system (SSMFS) on treatment of biological treatment effluent

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ABSTRACT

In this study, a pilot scale side stream membrane filtration system (SSMFS) was used to demonstrate the need for optimization of backwash conditions and the addition of PAC. Through an investigation of the amount of fouling each cycle that can be restored through backwashing over a short-term, a good operating point for long-term operation was developed. Periodic removal of 1.5% of the PAC slurry mixture (7.5 L out of 500 L) and PAC replacement (15 g/d) was found to have a positive impact on the reduction of membrane fouling.

Keywords: Membrane; Adsorption; Organic removal; Sewage effluent; Pilot scale study

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