Suntharee Passananon 2007: Enhancement of Natural Organic Matter (NOM) Removal by Activated Carbon Adsorption and Biofilm in Floating Media Filter for Water Treatment. Master of Engineering (Environmental Engineering), Major Field: Environmental Engineering, Department of Environmental Engineering.
Thesis Advisor: Associate Professor Chart Chiemchaisri, D.Eng. 159 pages.

This research work was conducted to determine the enhancement of natural organic matter removal in floating plastic media filter by granular activated carbon and biofilm from raw water of Bangkhen water treatment plant. It was found from the jar test that granular activated carbon could removal of 39% of UV_{254} and 62% of TOC. The continuous operation of experimental system at filtration rates of 11 $m^3/m^2.h.$ in floating media filter (PP) and 2 $m^3/m^2.h.$ in granular activated carbon (GAC) and biofilm unit (BF) for 120 days showed that natural organic matter (NOM) removal efficiency in GAC 99% in term of UV_{254} and TOC whereas BF had NOM removal of 52% in term of UV_{254} and 51% in term of TOC. Moreover GAC and BF could reduce chlorine demand for disinfection by approximately 29 and 14 percent. It could also reduce sum of trihalomethane (THMs) ratio from 1.1 to 0.5 and 0.1 respectively.

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