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The study was conducted to evaluate the turbidity removal performance of a pellet reactor. The reactor, where destabilized flocs from a 100 rpm rapid mixing tank were formed into pellet-flocs, is of the upflow type. The synthetic water which was prepared from kaolinte clay to have turbidity of 50 NTU was used throughout the study. The studied parameters were varied as follow :- alum dose : 5, 10, 20 and 30 mg/l ; concentration of anionic polyelectrotyte solution : 0.05, 0.1, 0.2 and 0.3 mg/l ; upflow velocity : 30 and 40 cm/min. ; speed of the paddles of the reactor : 5, 10 and 15 rpm.

It was found that turbidity of the effluent decreased when the alum dose or the concentration of anionic polyelectrolite increased. The system was found to be in steady state, which was defined as the state when turbidity of the effluent had been constat, after 3 hours of operation. Settling velocity of the pellet-floc was found to increase as the polymer concentration increased. The increase of the paddle speed would only result in higher turbidity of the effluent and lower settling velocity. Finally, at the upflow velocity of 40 cm/min., the settling velocity keeps at better levels than at 30 cm/min. The effluent turbidity was, however, somewhat constant.