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Abstract: A dynamic membrane is one of the anti-fouling techniques in the literature, but it has not been thoroughly studied. The formation of a MnO_2 dynamic membrane on top of a polyester primary membrane was investigated. The MnO_2 used in the investigation was precipitated from potassium permanganate ($KMnO_4$) solution using sodium formate (HCOONa). The study showed that formation of dynamic membranes with particle sizes less than the pore size of the primary membrane was found to proceed according to the standard law of filtration, in the first stages of membrane formation. Later, as particles start to bridge the pores and precipitate on the membrane surface, dynamic membrane formation was found to obey the cake filtration model. General equations to describe each case of dynamic membrane formation were obtained. When wastewater was treated using the dynamic membrane, particles were found to precipitate in the same pattern as in the case of dynamic membrane formation.