

Development of Anammox System Technology for Treated Water Treatment

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As the economy develops, environmental regulations are becoming more stringent. Sewage treatment plants are no exception. This research is a process of handling side-stream sewage of Anaerobic Ammonium Oxidation (ANAMMOX) Sequencing Batch Reactor (SBR) Anaerobic Digestion process, a new technique in sewage treatment systems. The process demonstrates higher nitrogen removal efficiency compared to the previous waste water treatment facility. In addition, biogase can be obtained from sludge generated from the sewage treatment process and energy can be produced using it. However, despite these benefits, many commercialization has not been achieved yet. This is due to the tricky growth conditions in the ANAMMOX Bacteria. To overcome this, the optimal growth conditions of the ANAMMOX Bacteria are found through various experiments. The purpose is to control the process in order to maintain this condition. The final goal is to find the control parameters by study using models related to the process in order to find the appropriate control parameters. The research was conducted with the support of Doosan Heavy Industries & Construction Co. (Project No. Y16031)