

Remote monitoring of small-scaled biological wastewater treatment plants by data-driven methodologies

정지원, 김 향, 옥진주, 홍성훈¹, 이대성*, 박종문²
경북대학교; ¹삼성엔지니어링; ²포항공과대학교
(daesung@knu.ac.kr*)

A real-time remote monitoring system for wastewater treatment plants (WWTPs) has been developed to give local operators a guideline that would allow them to arrive at the optimum operational strategy in the early stage of a process disturbance. Especially, small-scaled WWTPs in Korea's rural areas show a large fluctuation in their influent loading and, therefore, they require an efficient operation for treatment of organic matter, nitrogen and phosphorus. In this study, both operation data and measurement values from a novel mobile multi-sensor system were transmitted on-line by a telecommunication system. Then multivariate statistical process controls and software sensor techniques were applied to supervise local WWTPs. The developed remote monitoring system makes it possible to monitor the current plants' statuses and to support the operation of local wastewater systems. Acknowledgements : 이 논문은 환경부의 환경기술 인력양성 지원사업으로 지원되었습니다.