

Efficient Polyelectrolyte Recycling

Ken Jones

The Rotorua Wastewater Treatment Plant has a suspended growth BNR facility (Bardenpho), followed by DAFs and 3 filter belt -presses with poly (polyelectrolyte) dosing for dewatering sludge. The underflow leachate from the dewatering system, that contains varying concentrations of surplus poly, was recycled by returning it to the secondary treatment tanks.

Almost 12 months ago the process was reconfigured to recycle the leachate to the DAFs, bypassing the secondary tanks. Following this the conditions in the Bardenpho stabilized dramatically, bulking occurred less often and the concentration on nutrients and solids in the final effluent was lower.

The Water Industry Operations Group (WIOG) through the Te Oranga Wai prize is supporting Ken visiting similar plants to discuss poly recycling options and reconfiguration and monitoring parameters such as MLSS, effluent concentrations, poly use, sludge before and after any changes. This sharing of experiences fosters enthusiasm among operators and support for trying innovative ideas and realizing and measuring improved performance within the water industry.