

Practical Demonstration of YPNR Processes to Reduce the Total Nitrogen Ingredient in Sewage and Wastewater

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This study carried out plant verification experiments concerning the removal of total nitrogen components in wastewater, using two processes named YPNR. Using the YPNR process, pilot verification experiments were carried out for the removal of the total nitrogen components in a sewer system in Y County. In the YPNR pilot test carried out in a sewage treatment plant in County Y, the total nitrogen concentrations discharged after the denitrification process were maintained at a level of 5-19 mg/L. The process removed 34mg/L of the total nitrogen in influent, which resulted in a removal efficiency above 71% on average. The total nitrogen components in discharged water consisted of 22% of ammonia nitrogen, 6% of nitrite nitrogen, and 72% of nitrate nitrogen, which reaches a 94% nitrification efficiency. Hence, the YPNR advanced treatment process used in this study can be successfully applied to sewage treatment.