

EVALUASI KINERJA INSTALASI PENGOLAHAN AIR LIMBAH DALAM  
MENRUNKAN KADAR NH<sub>3</sub> DENGAN BERBAGAI WAKTU AERASI PADA AIR  
LIMBAH RSUD WATES, KABUPATEN KULONPROGO

Theresia Hastarini -- E2A202067  
(2004 - Skripsi)

Pengolahan limbah cair RSUD Wates menggunakan instalasi Pengolahan Air Limbah dengan *sequencing batch reactor (SBR)*. Selama proses pengoperasian IPAL dengan lama waktu aerasi 60 menit parameter NH<sub>3</sub> masih melebihi nilai ambang batas (0,1Mg/1). Keberadaan Amoniak (NH<sub>3</sub>) dalam limbah cair rumah sakit dapat menyebabkan penurunan kadar oksigen terlarut, sehingga dapat merusak kehidupan dalam badan air penerima limbah cair rumah sakit tersebut. Tujuan penelitian ini adalah untuk mengetahui perbedaan rata-rata penurunan kadar NH<sub>3</sub> air limbah antara waktu aerasi 60 menit dan 90 menit pada air limbah Rumah Sakit Wates. Dari hasil penelitian diperoleh bahwa rata-rata penurunan kadar NH<sub>3</sub> effluen dengan lama aerasi 60 menit adalah 32,16 mg/l, sedangkan rata-rata penurunan kadar NH<sub>3</sub> effluen dengan lama aerasi 90 menit sebesar 35,62 mg/l. Hasil analisis dengan menggunakan 't' test dua sampel bebas dengan  $\alpha = 5\%$  diperoleh probabilitas = 0,0001 sehingga disimpulkan bahwa ada perbedaan rata-rata penurunan kadar NH<sub>3</sub> effluen yang signifikan antara lama waktu aerasi 90 menit dan 60 menit pada proses pengolahan limbah cair di RSUD Wates. Diharapkan pengolahan air limbah di RSUD Wates menggunakan waktu aerasi 90 menit agar dapat menghasilkan air limbah teolah yang mempunyai kadar NH<sub>3</sub> di bawah NAB.

**Kata Kunci:** NH<sub>3</sub> waktu aerasi, limbah cair rumah sakit

*PERFORMANCE EVALUATION OF SEWAGE PURIFICATION INSTALATION IN REDUCING NH<sub>3</sub> CONTENTS AMONG AERATION TIME IN THE SEWAGE OF WATES DISTRIC GENERAL HOSPITAL, KULONPROGO DISTRIC.*

*Purifying liquit sewages in Wates Hospital requires Seweage purification Instalation (IPAL)process with Batch Reactor System (SBR). During the process, by operating IPAL within 60 minutes of aeration times NH<sub>3</sub> parameter still goes beyond grade limits. The remains of amoniacs (NH<sub>3</sub>) within liquit sewages of the hospital can cause reduction in dissolved oxygen contens,which ultimately damage the livings in the water body,which is a liquit sewages receiver, in the hospital. This research aimed at acknowledging the average rates of reduction in NH<sub>3</sub> contents within liquid sewages with the application of IPAL within 60 minutes of aeration time in comparison with 90 minutes of aeration time in Wates Distric General Hospital. The Research found that the average rates of reduction within the effluence of NH<sub>3</sub> contents with 60 minutes aeration times was 32,61 mg/l,while whitin 90 minutes aeration times resulted in 35,33mg/l. On analysis, by applying formula of t-test two independent sample with significant rates 5% the amount of probability was 0,0001. Thus,it is concluded that these difference in operating IPAL Between 60 minutes aeration times for the average rates of reductions within NH<sub>3</sub> contents in sewages purification in Wates Distric General Hospital. IPAL Wates Distric General Hospital was wished wear 90 minutes of aeration times in the purifying liquit sewages.*

*Keyword : NH<sub>3</sub> aerations times,hospital liquit sewages*