

Efektivitas Instalasi Pengolahan Air Limbah Sistem SBR Dalam Menurunkan Kadar Amoniak dan Phospat Pada Air Limbah Di Rumah Sakit Jiwa Daerah Dr. Amino Gondohutomo Semarang.

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Air limbah rumah sakit merupakan sumber pencemaran apabila tidak diolah terlebih dahulu akan memberikan dampak negatif terhadap kesehatan. Rumah Sakit Jiwa Daerah Dr. Aamoni Gondohutomo Semarang mempunyai Instalasi Pengolahan Air Limbah (IPAL) sistem SBR (*Sequencing Batch Reactor*) namun belum diketahui efektivitasnya. Tujuan dari penelitian ini adalah untuk mengetahui efektivitas IPAL di Rumah Sakit Jiwa Daerah Dr. Amino Gondohutomo Semarang dalam menurunkan kadar amoniak dan phospat. Metode penelitian yang digunakan adalah observasional dengan pendekatan *cross sectional*. Sampel diambil tiga kali sehari selama tujuh hari. Hasil pemeriksaan rata-rata kadar amoniak *influent* sebesar 1,73 mg/l dan *effluent* sebesar 0,09 mg/l terjadi penurunan kadar amoniak sebesar 94,90%. Sedangkan kadar phospat *influent* sebesar 3,95 mg/l dan *effluent* 1,42 mg/l terjadi penurunan kadar phospat sebesar 63,94%. Uji statistik yang dipakai adalah uji *Paired Sample t Test*. Hasil uji statistik sebelum dan sesudah pengolahan menunjukkan ada perbedaan yang bermakna kadar amoniak ($p=0,001$) dan phospat ($p=0,001$). Hasil pengolahan tersebut sudah dapat memenuhi baku mutu limbah cair yang ditetapkan yaitu Perda Propinsi Jawa Tengah no. 10 tahun 2004 tentang Baku Mutu Limbah Cair Rumah Sakit yang menyebutkan kadar amoniak maksimal 0,1 mg/l dan phospat 2 mg/l. Apabila pada *effluent* masih ada kadar amoniak yang melebihi baku mutu yang ditetapkan maka dapat dilakukan penambahan aerasi sedangkan untuk kadar phospat dapat dilakukan presipitasi pada air limbah *influent*.

Kata Kunci: Kata kunci:Efektivitas,IPAL,Amoniak,Phospat,Rumah Sakit Jiwa Semarang

Effectivity of SBR Waste Water Treatment Plant In Degrading The Content Of Ammonia and Phosphate at Semarang Mental Health hospital

Hospital waste water generally is source of contamination, without forgoing processing bring a negative impact for health. Semarang Mental Health Hospital has a SBR waste water treatment plant (WWTP), however its effectivity is not explored yet. This research aimed to investigate the effectivity of WWTP on Semarang Mental Health Hospital in degrading the content of ammonia and phosphate. Research method used was observational with cross sectional approach. Sample were taken 7 days sampling on the 3 times. Result of inspection of means rate of ammonia influent was 1.73 mg/l and of effluent was 0,09 mg/l. The content of ammonia degrading 94.90%. The content of phosphate influent was 3.95 mg/l and of effluent was 1.42 mg/l for the degradation the phosphate by 63.94%. Statistical test used was Paired sample t test. The result shows significant difference, before and after processed indicated there was a significant defference of ammonia rate ($p=0.001$) and phosphate ($p=0.001$). Result of the processing had to quality standard value of waste water ditermined by Perda Central Java propince no. 10 /2004 about the quality sandard value of waste water on central Java. If the yield of process is still higher than the quality standard value of waste water, aeration is highly important to decreas the content of ammonia and precipitation to be eliminated the content of phosphate.

Key words:Effectivity,WWTP,Ammonia,Phosphate,Semarang Mental Health Hospital