Identifikasi dan evaluasi pada Sequencing Batch Reactor (SBR) pengolahan limbah industri soft drink M = Identification and evaluation of Sequencing Batch Reactor (SBR) wastewater treatment soft drink M industry

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Abstrak

Efluen Instalasi Pengolahan Limbah Cair Industri soft drink M melebihi baku mutu lingkungan SK Gubernur Jawa Barat no.6/1999 dengan nilai BOD, COD dan TSS berurutan adalah 390 mg/l, 1200 mg/l dan 4056 mg/l. Tujuan penelitian mengidentifikasi dan evaluasi unit Cyclic Sequencing Activated Sludge (CSAS), mengusulkan dan mengimplementasi disain perbaikan. Evaluasi dengan membandingkan parameter operasional terhadap kriteria desain. Usulan dan implementasi disain perbaikan berdasarkan hasil evaluasi. Hasil evaluasi ditemukan efisiensi removal COD unit CSAS A menurun hingga -90 % dan unit CSAS B mencapai 82 %, rasio F/M < 0.05, foaming di permukaan unit, pH > 7.2 pada kedua unit, SVI < 50, overaeration dengan DO > 4 mg/l dan defisiensi N dan P. Disain perbaikan dengan meningkatkan debit dan pemberian pupuk NPK dan fosfat. Hasilnya removal COD CSAS mencapai 98 persen dan COD efluen memenuhi BML, sedangkan unit CSAS B efisiensi mencapai 44,4 persen dan efluen mendekati BML. Sedangkan untuk parameter TSS masih diatas BML.
<hr>Effluent of Soft Drink M Industry waste water treatment soft did not reach the environmental quality standard based on West Java Governor Decree No. 6/1999, with value BOD, COD and TSS respectivly 390 mg/l, 1200 mg/l dan 4056 mg/l. The purpose of this research is to identify and to evaluate unit Cyclic Sequencing Activated Sludge(CSAS) and propose and implement improvement design. Evaluation is carried out by comparing the operating parameters with design criteria. Design improvement that is proposed and implemented should be based on the evaluation. The result found the efficiency COD removal CSAS A dropping until -90 % and CSAS B reach 82 %, foaming on the surface of units, pH > 7.2, SVI < 50, overaeration with DO > 4 mg/l, and nutrient deficiency condition. Design improvements are increasing influent flowrate and addition NPK and Phospor Fertilizer. The result show efficiency COD removal CSAS A reached 98 % and COD effluents meet the BML, but CSAS B efficiency reached 44,4 percent and effluents approached BML. As for TSS, concentration exceed BML.