

## ABSTRAK

IPAL Komunal dibangun sebagai upaya untuk mengurangi tingkat pencemaran yang bisa terjadi di sepanjang sungai di Yogyakarta. Berdasarkan pemantauan Badan Lingkungan Hidup (BLH), terdapat 47 IPAL yang masih belum memenuhi baku mutu. Hal ini menunjukkan tingkat efisiensi IPAL Komunal yang masih rendah sehingga diperlukan adanya evaluasi terhadap kinerja IPAL. Penelitian ini bertujuan untuk menganalisis nilai  $LC_{50}$  pada limbah cair IPAL Komunal terhadap *Daphnia magna*, serta menganalisis hubungan kualitas air terhadap *Daphnia magna*. Pengujian dilakukan menggunakan metode WET. Pengujian dilakukan melalui 2 tahap, yaitu uji pendahuluan dan uji definitif. Data jumlah kematian *Daphnia magna* dianalisis menggunakan Metode *Spearman Karber*. Nilai  $LC_{50}$  yang diperoleh diantaranya yaitu influen 1,6% dan efluen 2,22% di IPAL Dokaran; influen 5,78% dan efluen 2,30% di IPAL Grojogan; influen 1,98% dan efluen 1,33% di IPAL Pamotan Lor; influen 1,15% dan efluen 1,33% di IPAL Nglebeng. Parameter fisik dan kimia yang diukur diantaranya, BOD, COD, TSS, amonia, serta minyak dan lemak. Hasil yang diperoleh dari penelitian yaitu kadar parameter fisik dan kimia secara umum melebihi baku mutu dan berpengaruh terhadap kematian hewan uji.

Kata Kunci: IPAL Komunal,  $LC_{50}$ , WET, *Daphnia magna*,

## ABSTRACT

*Waste Water Treatment Plant was built as an effort to reduce the level of pollution that can occur along the river in Yogyakarta. Based on the monitoring of BLH, there are 47 WWTP that still do not meet to the quality standard. It shows the level of efficiency WWTP is still low, so it is necessary to evaluate the performance of WWTP. On this research aims to analyze the value of LC<sub>50</sub> on the WWTP against *Daphnia magna*, and analyze the relationship of physical and chemical parameters to *Daphnia magna*. The Test was using by WET method. The Test is done through 2 stages, namely preliminary test and definitive test. Data on the number of deaths of *Daphnia magna* were analyzed using the Karber Spearman Method. The values of LC<sub>50</sub> are WWTP of Dokaran 1,18% in influent and 2,22% in effluent; WWTP of Grojogan 5,78% in influent and 2,3% in effluent WWTP of Pamotan Lor 1,98% in influent and 2,11% in effluent; WWTP of Nglebeng 1,15% in influent and 1,33% in effluent. The measured physical and chemical parameters consist of BOD, COD, TSS, ammonia, and oils and fats. The results obtained from the research that the levels of physical and chemical parameters in general exceed the quality standards and affect the death of test animals.*

Key Word: WWTP, LC<sub>50</sub>, WET, *Daphnia Magna*.