

**PERANCANGAN SIMULATOR SISTEM IPAL STOCKPILE
BATUBARA DI PT. SEMEN PADANG
BERBASIS LABVIEW**

SKRIPSI

*Diajukan Sebagai Salah Satu Syarat Untuk Menyelesaikan
Pendidikan Strata Satu (S-1) Pada Jurusan Teknik Elektro
Fakultas Teknologi Industri
Universitas Bung Hatta*

Oleh:

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1710017111017



**JURUSAN TEKNIK ELEKTRO
FAKULTAS TEKNOLOGI INDUSTRI
UNIVERSITAS BUNG HATTA
PADANG
2022**

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Dipertahankan di depan penguji Skripsi
Program Strata Satu (S-1) Pada Jurusan Teknik Elektro
Fakultas Teknologi Industri Universitas Bung Hatta Padang
Hari: Selasa, Tanggal: 1 Maret 2022

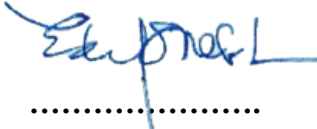
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Tanda Tangan


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ABSTRAK

Stockpile batubara merupakan tempat penimbunan sementara sebelum batubara diangkut ke penggunaan akhir, stockpile tersebut juga dapat menampung air hujan yang jatuh di atasnya. Air hujan yang tercampur dengan batu bara akan menjadi limbah cair, dikarenakan mengandung zat yang berbahaya, zat yang terdapat pada limbah cair yang berasal dari stockpile mengandung padatan tersuspensi yang tinggi dan berpotensi mempengaruhi kualitas lingkungan dan ekosistem air jika dialirkan ke sungai untuk dibuang. Dari permasalahan limbah yang berupa air dengan kekentalan yang tersuspensi maka dibuat Instalasi Pemurnian Air Limbah yang dapat dipantau dari software LabView. Pembuatan simulasi IPAL berbasis LabView dibuat berdasarkan gambar yang ada pada Flowsheet. Pemograman yang dibuat menggunakan gambar rangkaian gerbang logika beserta rumus yang dapat dilihat pada pemrogramannya. Simulasi IPAL yang dibuat memiliki lampu Indikator sebagai pendukung atau penanda berjalannya Simulasi sesuai dengan yang diinginkan. Lampu Indikator terhubung ke Software LabView menggunakan Arduino Mega2560.

Kata Kunci : Stockpile, Simulator, IPAL.

ABSTRACT

Coal stockpile is a temporary storage place before coal is transported to final use, the stockpile can also accommodate rainwater that falls on it. Rainwater mixed with coal will become liquid waste, because it contains hazardous substances, the substances contained in liquid waste originating from the stockpile contain high suspended solids and have the potential to affect the quality of the environment and water ecosystem if it is drained into the river for disposal. From the problem of waste in the form of water with suspended viscosity, a Wastewater Purification Installation was made which can be monitored from the LabView software. LabView-based WWTP simulations are made based on the images in the Flowsheet. The programming is made using a series of logic gates and formulas that can be seen in the programming. The WWTP simulation made has an indicator light as a support or a marker for the simulation to run as desired. The Indicator Light is connected to the LabView Software using the Arduino Mega2560.

Keywords : Stockpile, Simulator, WWTP.

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