

## ABSTRACT

PT. Kotawaringin Raya Alumina is a company that moves in the fields of processing and purification of bauxite being aluminium, located in the village of Luwuk Bunter, sub-district Cempaga, district Kotawaringin Timur, province Kalimantan Tengah. The extraction of alumina by aluminium who uses the Hall Heroult method or electrolysis method has produced negative impact to the environment, that is the formation of solid waste ( Spent Pot Lining) and gas emissions.

The purpose of this research is counting potential waste will be produced, and find a method of proper handling waste to the environment.

Methods used in this research is taking samples of solid waste to be tested in the laboratory, and then processed roasting to know the content of cyanide (CN), Flouride (F), and estimated gas emissions are produced.

Waste that is produced in the form of solid waste (Spent Pot Lining) containing of cyanide (CN), flouride (F), and gas emissions of carbon diokside (CO<sub>2</sub>), carbon monokside (CO), hidrogen flouride (HF), carbon tetraflouro (CF<sub>4</sub>), hexa flouroetana (C<sub>2</sub>F<sub>6</sub>).

In the process of roasting with temperature 600°C and time of 30 minutes, the content of cyanide with concentration 3.640 ppm down to 15 ppm, and flouride concentration down to 3,6 ppm from 53,2 ppm. The gas emissions produced handled by using Dry Scrubbing System capable of reducing the concentration of gas emissions significantly.

**Key Word** : Spent Pot Lining (SPL), Roasting Process, Dry Scrubbing System.