

Application of New Generation and Old Generation Incinerators in Waste Management

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Abstract

Old generation incinerators (Fluidized bed, Rotary kiln, Grate and Single chamber) has some disadvantages such as limitation of application, low throughput and negative environmental impacts such as air pollution, and the ashes that are contaminated with volatile organic compounds. At this study, we've reviewed the techniques used for thermal treatment of municipal and hazardous wastes as new generation incineration technologies and being optimized in term features such as scope of application, environmental advantages and disadvantages, quality of the bottom ash, emission reduction and in general, the Best Available Technology. For this purpose, we use the key words to find articles and guidelines. According to the table (types of the new generation techniques for waste thermal treatment and compare them based on the Best Available Technology in accordance with Europe Commission Directive) It can be concluded that new generation incineration techniques in combination with other's has the advantages that are; high throughput, gaseous emission reductions, increased quality of output Ashes and wide scope of application to old generation incinerators. The choice of a new generation of incinerators techniques too can be based on the best available technology, the most advantages and least disadvantages. Also, technologies like plasma and oxygen enrichment methods within primary fuel and recirculation of the flue gas to incinerator system can be raised the reduction efficiencies for dioxin and NO_x as serious pollutant in the exhaust.

Keyword: *incinerator, waste management, municipal waste, hazardous waste, BAT.*