

Catalytic combustion system for use in Malaysia small gas turbine: A feasibility study

Abstract

Nowadays, the rates of air pollutant produced by small gas turbine in manufacturing and automobile industries increased continuously. Besides that, the uncontrolled rate of emissions released into the ambient air could pollute the air environment and harm human life. Normally, the emissions produced from fuel oxidation inside the combustor of the gas turbine are nitrogen oxides (NO_x), carbon monoxide (CO) and unburned hydrocarbon. Most of the produced emissions could harm our environment such as greenhouse effect and could deplete the ozone layer and allow increased of radiation. The effects from these situations gradually endanger the human life in general. Realizing the importance of controlled emission, this feasibility study is conducted to propose a new combustor for use in Malaysia small gas turbine. The proposed combustor satisfies the objective as more effective, greener and able to operate at optimum level. Catalytic combustor was chosen based on its performance, capital cost, rate of emission, feasibility and durability.