

ABSTRACT**AUTOMATED DESIGN PROCEDURE FOR PULSE JET
BAGHOUSES****LYNFORD CHEDDIE**

In Trinidad and Tobago and the entire Caribbean legislation will soon dictate that all industries adhere to strict environmental laws or face penalties and ultimate shutdown. Amongst these laws will be the required emission standards for "dust" products and companies will be investing in equipment or upgrading their systems to meet these standards. Within the Caribbean these companies include Cement Manufacture, Readymix concrete, Flour, Iron and Steel, Bauxite, Quarrying and Sandblasting. This thesis investigates the design procedure and automates it for pulse jet baghouses which is one control device for dust emission.

A survey was done of the existing dust control devices and an explanation given as to why the baghouse was chosen as opposed to the other methods. An in-depth analysis was performed in the design process for this type of equipment and from this a computer program was written. This program was tested using existing data from some of the different industries and the results showed that the output design was very close to what is normally supplied by

international manufacturers of dust control devices. Moreover the cost to manufacture these baghouses locally is competitive with the prices at which the existing equipment was bought.

A preliminary study was done into the market for dust emission control equipment within the Caribbean region. With the intention to tap into this market, whose growth is expected in the near future, technical information was presented for the set up of the first local dust collection equipment manufacturing company.

Keywords: Lynford Cheddie; environmental dust pollution control; baghouses; dustplants.