NATIONAL UNIVERSITY

OF

SCIENCE AND TECHNOLOGY

FACULTY OF INDUSTRIAL TECHNOLOGY

DEPARTMENT OF INDUSTRIAL ENGINEERING

FINAL YEAR PROJECT

PRODUCTIVITY IMPROVEMENT IN THE MANUFACTURE OF CATEGORY A PRODUCTS AT BICC CAFCA USING SIMULATION.

By

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Date : **April 2000**

Dissertation submitted in Partial Fulfilment of the requirements of the *Bachelor of Engineering Degree in Industrial Engineering (Honors).*

Abstract

To run an organisation successfully a manager is required to be equipped with conceptual, people and technical skills to argument his management approaches. These skills should be applied in harmony to derive full benefit from them. One such benefit is the reduction in performance of risky experiments on system or organisation. Basically the manager or employees in general need to have some statistical techniques, modelling techniques and also be computer literate.

Simulation is one such technique, which can be employed in business situations as will be demonstrated in this project. Simulation is particularly employed to queuing situations such as customer queuing in a shop or parts waiting to go through a machine for processing. This project focuses on the production of Category A products at BICC CAFCA. The research for this project involved collecting a lot of data which included machine set-up times, cycle times, breakdown times and product lot sizes. This data was used to build a model of how the system operates. WITNESS software package was used to build the model as well as in the analysis of the data. After validating the model of the system, experiments were performed on the model and details of the results are shown in the report. This project illustrates the practical aspect of simulation as an application tool for management. Illustrations on some of the analysis is shown in the project but details on some of the data analysis has been excluded in this report since it took a lot of space.