DESIGN OF THE ELECTRICAL INSTALLATION OF A MULTISTOREY BUILDING

Project report submitted by

MODESTOU TASOS

In part of satisfaction of the conditions for the award of Diploma of Technician Engineer in Electrical Engineering of the Higher Technical Institute, Cyprus.

Project supervisor: Mr Ch. Chrysafiades

Lecturer in Electrical

Engineering, H.T.I

Type of project : Individual

June 1989



ABSTRACT

This project deals with the design of the electrical installation of a multistorey building.

This project is divided into seven parts.

- -In the first part the illumination design is presented, giving all the definitions of the units used, design methods, examples and the results of the actual design.
- -In the second part the earthing system as well as other units of earthing are explained.
- -In the third part inspection and testing of an installation are explained.
- -In the fourth part, the actual electrical design of the lighting circuits, the power circuits, the fixed appliances circuits, as well as the motor circuits takes place. Moreover, calculation of the supply cable sizes as well as distribution board sizing is carried out.
- -In the fifth part, the costing of the whole installation is carried out.
- -In the sixth part, all the necessary tables and manufacturers specifications are given.
- -Finally, in the seventh part, the drawings are presented.

CONTENTS

CHAPTER 1: ILLUMINATION

- 1.1 GENERAL
- 1.2 UNITS AND DEFINITIONS USED IN ILLUMINATION.
- 1.3 TYPES OF LIGHTING SOURCES
- 1.4 SPACING OF FITTINGS
- 1.5 DESIGN PROCEDURES
- 1.6 TYPICAL CALCULATIONS FOR ILLUMINATION DESIGN
- 1.7 RESULTS OF ILLUMINATION CALCULATIONS

CHAPTER 2: EARTHING

- 2.1 GENERAL
- 2.2 EARTHING SYSTEMS
- 2.3 EARTH FAULT LOOP IMPEDANCE
- 2.4 BONDING

CHAPTER 3: TESTING

- 3.1 GENERAL
- 3.2 VISUAL INSPECTION
- 3.3 TESTING

CHAPTER 4: ELECTRICAL DESIGN

- 4.1 GENERAL
- 4.2 LIGHTING CIRCUITS DESIGN
- 4.3 POWER CIRCUITS DESIGN
- 4.4 FIXED APPLIANCES CIRCUITS
- 4.5 MOTOR CIRCUITS
- 4.6 SUPPLY CABLES AND DISTRIBUTION BOARDS SIZING

CHAPTER 5: COSTING

APPENDICES

DRAWINGS