

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE
DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL SERVICES
OF HOTEL APARTMENTS

E/953

IOANNOU PAYLOS

1995

SCIENCE	PROJECT NO
TECHNICAL	2432
INSTITUTE	

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

DIPLOMA PROJECT

**DESIGN OF THE ELECTRICAL
SERVICES OF HOTEL APPARTMENS**

E/953

By: IOANNOU PAVLOS

JUNE 1995

PROJECT	PROJECT NO.
TECHNICAL	2432
INSTITUTE	

Design of the electrical installation of a Group of Hotel appartments.

Project Report Submitted by Pavlos Ioannou, in part satisfaction of the award of Diploma of Technical Engineering of the Higher Technical Institute, Cyprus.

Project Supervisor Mr. Michael

Lecturer in Electrical Engineering H.T.I.

External Assessor :

Type of project : Individual
Group

June 1995

DATE	PROJECT NO
	2432

To

My family

For all their help which they offered me with love and understanding throughout my years at the H.T.I. and especially throughout this project.

Acknowledgement

I would like to express my thanks to my project supervisor Mr. Michael for his guidance given throughout the project period.

My thanks also go to all those who in anyway helped me and gave me courage during the design period of this project.

Contents

Acknowledgements	
Contents	
Abstract	
Symbols and Abbreviations	
Introduction	

Chapter I

Illumination Design	1
1.1 Introduction.....	1
1.2 Terminology used.....	1
1.3 Typical Calculations.....	3
1.4 Tabulated Results.....	7

Chapter II

Earthing System.....	10
2.1 General	10
2.2 Protection for safety	11
2.3 Definitions	13

Chapter III

Lighting Design	15
3.1 Introduction.....	15
3.2 Typical Calculations.....	16
3.3 Tabulated Results.....	20

Chapter IV

Power Design	21
4.1 Socket Outlets	21
4.2 Typical Calculations.....	21
4.3 Results of ring ccts calculations	26
4.4 Introduction to fixed appliances	27
4.4.A Sample calculations.....	27
4.4.A IResults of cooker ccts calculations	29
4.5 Air-conditioning.....	30

4.5.A Sample calculations.....	30
4.5.A1 Results of Air-conditioning ccts	32
4.6 Water Heaters calculations	32
4.6.A Results of water heaters ccts calculations	34

Chapter V

Supply cables.....	35
5.1 Samples calculations	35
5.2 Tabulated Results	38
5.3 Feeding cables from busbars system.....	39

Chapter VI

Balancing	42
6.1 Tabulated Results of Design currents	42
6.2 Balancing calculations.....	43
6.3 Fault level calculations.....	44

Chapter VII

Telephone distribution system	49
7.1 General	49
7.2 Design of the telephone distribution system	49
7.2.A Design of the internal wiring.....	49
7.2.B Procedure to be followed for planning an internal wiring system.....	50
7.2.C Earthing	51
7.2.D Installation of the telephone lines.....	52
7.2.E Initial Demand of telephone points and the maximum future demand.....	52
7.2.F List of connections	53

Chapter VIII

Costing	54
Conclusions.....	58
Appendices	
References	59

Abstract

This project deals with the design of the electrical and telecommunication services of Hotel apartments. The project work includes specifications and tender drawing as well as typical calculations of the design carried out.

The whole design is made according to the relevant for each system regulations.